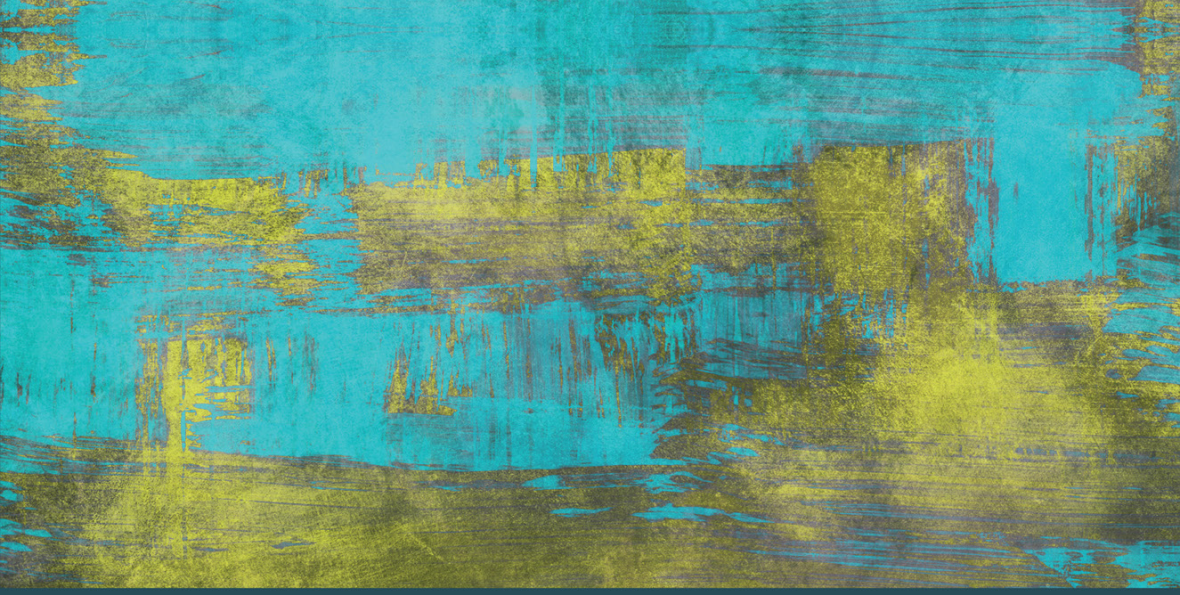
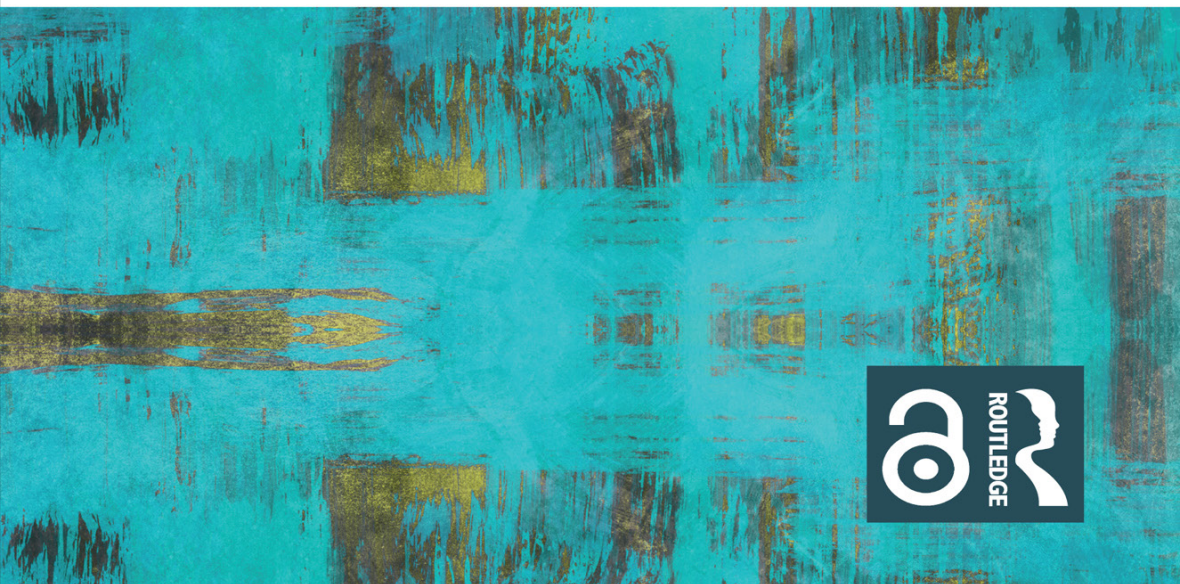


Routledge Advances in Regional Economics, Science and Policy

REGIONAL POLICY IN THE SOUTHERN AFRICAN DEVELOPMENT COMMUNITY

Edited by

J. Ernst Drewes and Mariske van Aswegen



Regional Policy in the Southern African Development Community

This book analyses regional development policy or the lack thereof in the Southern African Development Community (SADC), which forms a key trading bloc on the African continent as well as the Global South. It explores the main attributes relevant to the formulation of regional policy in terms of socio-economic policies as well as spatial planning instruments. Further, it integrates macro and sectoral policy frameworks and applies the goals and objectives thereof practically through the appropriate and timely application of spatial targeting instruments within the SADC as a developing region.

The focus of the research is to reflect on the social, economic, environmental, and political arguments through a focused analysis of relevant planning instruments, policies, and barriers in terms of the regional policy goals for the SADC region. The book provides insight into the role of the SADC in the context of regional development, analyses regional policy on a national, regional, and continental scale with reference to the SADC, and evaluates the inherent potential in the regional economy as well as barriers to regional development. It identifies gaps in the existing regional policy framework of the region and its constituent members and makes recommendations for improved regional policy frameworks and their implementation.

The book is targeted at scholars, researchers, and students studying international trade as well as regional and economic development, and urban and regional planning and policy. It will also be a useful resource for policymakers, as it provides practical policy guidelines for improved regional planning towards a comprehensive regional policy framework.

J. Ernst Drewes is a full Professor of Urban and Regional Planning at North-West University, Potchefstroom, South Africa.

Mariske van Aswegen is a Senior Lecturer in the Unit for Environmental Science and Management, North-West University, Potchefstroom, South Africa.

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Edited by J. Ernst Drewes and Mariske van Aswegen

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Editors

J. Ernst Drewes is a registered professional urban and regional planner with 30 years of experience in the industry. He is a member of the South African Council for Planners (SACPLAN), the South African Planning Institute (SAPI) and the International Society for Urban and Regional Planners (ISOCARP). Ernst is also an accredited commercial mediator specialising in property development mediation. He holds the position of professor in the Department of Urban and Regional Planning at North-West University. He is a C2-rated researcher with the National Research Foundation (NRF), and his research is focused on strategic spatial planning, regional policy and planning legislation.

Mariske van Aswegen is a qualified and professionally registered urban and regional planner (South African Council for Planners) with 19 years of experience in both the industry and as an academic. Her research work mainly focuses on resilience in the peripheral region, regional policy, and regional strategic planning. She is affiliated with the North-West University as an Extra-Ordinary Senior Lecturer in the Research Unit for Environmental Sciences and holds a C2 rating at the National Research Foundation (NRF). She is editor-in-chief of the *Town and Regional Planning Journal*.

Contributors

Andrè Brand is employed at Statistics South Africa and is affiliated with the North-West University as an Extra-Ordinary Senior Lecturer in the Research Unit for Environmental Sciences. His research interests lie in regional planning, specialising in economic corridor development.

Maléne Campbell is a professional town and regional planner. She has worked in both the private and public sectors and has spent the past 27 years teaching and conducting research at the University of the Free State.

Lorainne Ferreira is a senior lecturer in the School of Economic Sciences at the North-West University, South Africa. Her primary research interests focus on strategies and practices that facilitate export promotion and management. This includes a focus on advancing regional trade integration and development.

Michelle Lillian-May Goliath is a registered professional consulting urban and regional planner and sustainable development specialist from the University of the Free State and holds three decades of private sector experience. Her expertise is primarily in people-centred urban planning, sustainability, and risk management, shaping resilient spaces amidst dynamic hazardscapes.

Ewert P.J. Kleynhans is a full professor in economics, North-West University, South Africa, and his research focuses on the competitiveness of firms and industries, with special emphasis on location, regional development, and economic geography. He has obtained degrees in economics and philosophy.

Alize Le Roux is a senior researcher at the African Futures and Innovation group at the Institute for Security Studies. She holds a master's degree in geographical sciences from the University of Utrecht, the Netherlands and specialises in forecasting methods and techniques.

Johan Maritz is a town and regional planner with a postgraduate qualification in development planning at the CSIR based in Pretoria South Africa. He

has been applying geospatial analysis to support planning, policy, and decision-making challenges within the South African planning landscape.

Gabriel Mhonyera is a postdoctoral research fellow at the College of Business and Economics, SPMGPP, University of Johannesburg, South Africa. His research interests focus on trade policy, export promotion, foreign direct investment, and regional trade and economic integration in Africa.

Ockert R. Pretorius is a lecturer at the Department of Urban and Regional Planning, University of Johannesburg, South Africa. His research interests include regional policy and economic resilience, and he has an industry background in development economics.

Ermie Steenkamp is an associate professor in the School of Economic Sciences at the North-West University, South Africa. Her research focuses primarily on international market selection, export promotion, the measurement of market accessibility, and regional trade integration.

Verena Tandrayen-Ragoobur is an Associate Professor at the Department of Economics and Statistics at the University of Mauritius. She heads the Pole of Research Excellence in Applied Social and Economic Research Analysis and co-chairs the WTO Chairs Programme at the university. Her research areas are development economics, labour economics, international trade, poverty, and gender.

Elsona van Huyssteen is an authentic and energised advocate for unlocking possibilities through partnership and connection at the CSIR. With more than 25 years of experience in national, inter-regional, and municipal development planning, as well as transformative capability development, she is committed to empowering teams and collaborators to discover fresh perspectives and innovative solutions for complex developmental challenges.

Eric Yankson is a Senior Lecturer in Spatial Planning at the Department of Architecture, Planning and Construction of the Namibia University of Science and Technology (NUST). He is the current PhD Programme Coordinator for Spatial Science and the immediate past Associate Dean for Research and Innovation of the Faculty of Engineering and the Built Environment of the NUST. His research interests include regional and urban governance, political economy, policy analysis, economic development, land use, and transport planning.

1 Introduction

J. Ernst Drewes and Mariske van Aswegen

1.1 Background

The determination of the African Continental Free Trade Area Agreement in March 2018 has resulted in renewed interest in the role of 'super-blocs' in regional development (Albert, 2019). The former regionalisation process will result in the world's largest trading bloc (55 countries). The proposed research aims to analyse regional development policy (or the lack thereof) in the Southern African Development Community (SADC), which also forms a key trading bloc on the African continent and the Global South.

A primary aim of the SADC's 16 southern African countries is increased trade liberalisation and functional interdependency between participating countries (African Development Bank, 2011; Peters-Berries, 2010; SADC, 2012). The SADC seeks to increase trade and development between participating countries with integration objectives based on the linear integration approach inherent to the neoclassical stages of integration (SADC, 2012).

In terms of spatial integration, however, the SADC propagates the development of regional connecting infrastructure, or 'development corridors', that ensure increased access between member countries for better trade and factor movements (Anderson, 2001; SADC, 2012). Inherent to the aforementioned spatial integration initiative is the efficient functioning of development instruments, both physical and non-physical. However, policy guidance from a regional and country-specific perspective is severely lacking (Pretorius et al., 2017).

The book aims to analyse regional development policy (or the lack thereof) in the SADC, which also forms a key trading bloc on the African continent and the Global South. The statement of aims for the book includes:

- Providing insight into the role of the SADC in regional development matters.
- Analysing regional policy on national, regional, and continental scales, concerning the SADC, and
- Evaluating the inherent potential in the regional economy and exploring barriers to regional development.

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1.2 Setting the scene

The SADC is a Regional Economic Community (REC) comprising 16 member countries (Angola, Botswana, the Union of Comoros, Democratic Republic of the Congo, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, United Republic of Tanzania, Zambia, and Zimbabwe; see Figure 1.1). The SADC bloc's collective aim is to achieve development, peace and security, and economic

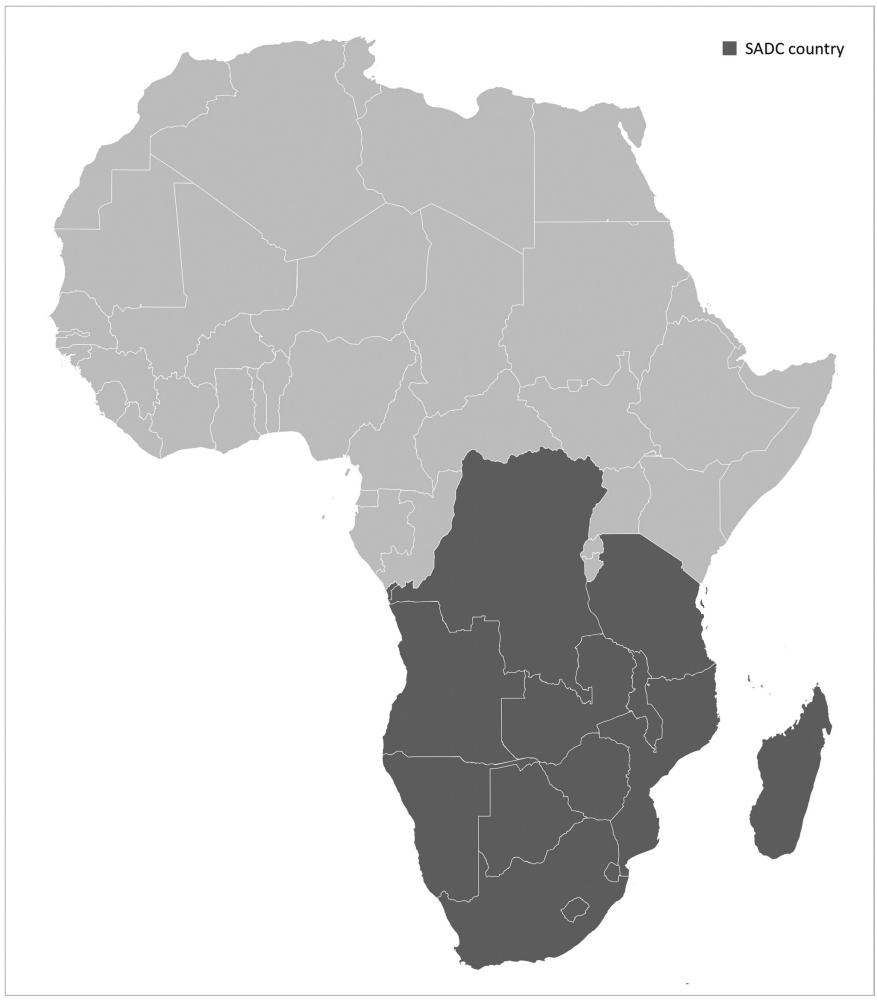

Figure 1.1 The 16 member states of the Southern African Development Community (SADC) *Source:* Own compilation, Microsoft Excel Mapping tool, 2023

growth, to alleviate poverty, enhance the standard and quality of life of the peoples of Southern Africa, and support the socially disadvantaged through regional integration, built on democratic principles and equitable sustainable development (Konstantinus et al., 2019). SADC's member countries include small, isolated economies with island states, a mix of low- and middle-income countries, and larger countries with potentially large economies. The economic geography reinforces the importance of regional integration to create a larger market and greater economic opportunities (Ranganathan & Foster, 2011).

1.3 The structure of the book

The book is subsequently organised into four parts, providing perspectives from a policy background (Part 1) and focusing on the physical and structural status quo in Part 2. This is followed by Part 3 with an in-depth analysis of the various economic and trade perspectives, and, lastly, Part 4 resorts to a conclusive summary and policy proposals in line with the book`s aims stated above.

1.3.1 Part 1: Policy perspectives

The first part of this book is devoted to understanding the policy perspectives of regional policy in the SADC and is divided into three chapters:

Chapter 2: Regional policy in the African Union and SADC

Chapter 3: Understanding the role and potential of the peripheral region

Chapter 4: Implications of subnational regional development policy for the Southern African Development Community

Chapter 2: Regional policy in the African Union and SADC

Regional policy as conceived by central or regional government has not always been a purely economic question. Political, social, and environmental considerations have usually played their parts in explaining the regional economic policy question dynamics. Regional policy, per definition, is directed at problems related to spatially irregular development, especially in developing regions. The aforementioned '**regional problem**' derives from geographical irregularity, either in distribution or in the conditions of production; from a regional consciousness of regionally irregular processes of change; or a wider awareness on the part of the government of the potential political effects of change upon particular regions.

The focus of this chapter, and the book in general, suggests a broader view of regional policy. Recognising that regional policies vary from place to place and over time, they would typically involve the pursuit of one or more of the following goals: reduction of regional disparities, whether for reasons of economic efficiency, political stability, or social justice; redistribution or change in growth patterns of population and economic activity in space; and improvement in resource allocation by reducing unemployment and promoting relatively rapidly growing sectors.

The formulation and determination of regional policy guidelines for SADC could, therefore, be seen as an attempt to modernise and restructure the productive base of the economy by inducing a locational shift which corresponds to a more effective pattern for efficient production, while still being consistent with relevant national aspirations.

Chapter 3: Understanding the role and potential of the peripheral region

This chapter aims to discuss the '**peripherality of the SADC**' within the context of regional resilience, ultimately focused on providing a regional policy response for the interrelated SADC region. The region within the larger spatial environment is bound to certain regional dynamics, mainly economic growth and development, but continuously considering the impacts and influences of spatiality. Development and growth are found to be inextricably linked to location, either within the diversified relational space (dependent on endogenous growth) or within the diversified-stylised space (dependent on exogenous influences). This also reflects the intricate spatial relationship between the member countries in the SADC region.

Concepts of stagnation and backwardness of regions are associated with peripherality and marginality, which are visible from the earliest understanding of regional interaction, finding their way within the resilience literature as the ability of regions and their actors to welcome change and exhibit a certain level of readiness to adapt and grow to become agglomerations. This ability to resist stagnation, but also to balance readiness with stability, is what is found to be central to the resilience capabilities of a region, not only absorbing shocks but recovering in such a manner that the entirety is better off because of a shock, ultimately turning the negative shock into a positive new growth path.

Under the principles of growth-pole theory, and supported in the new economic geography, it is emphasised that by focusing more on local interactions between a region`s core and periphery, a region will be able to revitalise itself from stagnation. Once this internal openness is reached, the regions will yield more to exogenous factors and influences. In this manner, regions' locational advantages are explored, focusing on strengthening intra-regional interaction (as a form of localised regionalism) through concentration and clustering to overcome negative regional externalities. Peripherality within

the SADC and towards the SADC will be reviewed, and recommendations will be made for pertinent regional policy response with a focus on unlocking mechanisms. This chapter serves as a theoretical base for understanding the SADC`s position in the world and highlighting reasons for its lagging growth.

Chapter 4: Implications of subnational regional development policy for the Southern African Development Community

Regional development policy may be regarded as a growing body of literature in the discourse on inter-jurisdictional governance in the global era. At the subnational level, there is growing interest regarding how the nuances of the nation-state shape policy choices by region. This notwithstanding, subnational regional development policy in an African context appears to be a largely emergent area of scholarship. This proposal seeks to address the dearth by articulating the '**dynamics of subnational regional development policy**' to unpack its ramifications for the wider SADC. Based on a case study of Namibia, it seeks to address the following specific questions: how has subnational regional development evolved, and what are its defining attributes or interests? What is the nature of the policy-making process at this scale, and how does it shape the approach to regional development? What are the broader lessons offered by subnational regional development policy for SADC? The study conceptualises subnational regional development policy in terms of integrated regional land use planning; regional cooperation and networks; metropolitan rescaling; multilevel governance; rural-urban linkages; global-local synergies; agricultural development and natural resource management; small-scale industrialisation; and inter- and intra-regional planning approaches. It argues that subnational regional development policy serves as the building block for supranational regionalism within the lens of SADC. The research thus contributes to the existing literature by articulating the ramifications of subnational regionalism for supranational regional integration in developing countries.

1.3.2 Part 2: Structural perspectives

Part 2 consists of three chapters with a specific focus on hard infrastructure within the SADC region as follows:

Chapter 5: Corridors as spatial instruments to channel and focus economic development: Science versus politics

Chapter 6: SADC's settlement hierarchy and networks in support of cross-border regional development

Chapter 7: The role of infrastructure in regional trade in the SADC region

Chapter 5: Corridors as spatial instruments to channel and focus economic development: Science versus politics

The chapter aims to rationalise scientific reasoning when employing economic development corridors to pursue cohesion and development within RECs. The SADC as a REC propagates regional connecting infrastructure, or 'development corridors', that ensure increased access between member countries. Primarily, the function of corridors is to connect areas across regions and countries to promote trade. Development corridors are viewed as a network with multisector linkages and are considered most beneficial for economic development. Countries' modus operandi towards development corridors is primarily supply-driven with the notion of creating an overarching transport solution (morphological or physical connections) that will automatically translate into economic activity and growth. However, lessons learned signified that it has not and will not necessarily work. '**Offsetting remoteness**' is more than just physical connections; it also provides for non-physical (functional) connections, such as the sphere of influence of a region and how it can potentially be measured and interpreted. The chapter shows that SADC member countries should engage in exchanges outside the areas of traditional hard infrastructure to foster economic development. It establishes that to mitigate corridor potential, inter-regional development must be facilitated by enhancing the extent of corridors through scientific reasoning. Scientific reasoning enables an objective and effective spatial targeted strategy as part of the conclusive remarks.

Chapter 6: SADC's settlement hierarchy and networks in support of cross-border regional development

The SADC is undergoing rapid urbanisation. Since SADC's establishment in 1980, the population has surged from 127 million to 363 million in 2020, with urban populations expanding by 133 million. While mega cities in Africa are often the focus of urbanisation discussions, in 2012, it was estimated that only 9% of urban dwellers would be living in cities with over 5 million inhabitants and that about 57% of urban dwellers would be living in cities with fewer than half a million inhabitants (UN, 2012), with growth occurring in often under-resourced and smaller towns, cities, and local governments (United Nations Department of Economic and Social Affairs/ Population Division, 2012).

Many fast-growing cities, towns, and settlements carry risks such as harsh climatic impacts, as well as the realities of displacement, high levels of poverty, inequalities, and the scars of a colonial past. Cities and settlements with hinterlands and in close interaction with surrounding rural zones still carry diverse roles as regional economic gateways and providers of service functions (Wisner, 2015). They are also increasingly significant in addressing international and regional goals (i.e., for the Sustainable Development Goals and Africa's Agenda 2063 (Slavova, 2016)), agreements, and plans. Cities in

Africa are still typically being categorised and compared merely in relation to population size (Aerni, 2016; Agergaard, 2016; Powell, 2018; European Commission, 2015; Paterson et al., 2017; UN-Habitat, 2014; Slavova, 2016; Angeloulo, 2015). The chapter will also contribute to the value of more nuanced profiling in support of a context-specific understanding of urban and settlement typology.

This chapter underscores the importance and benefits of '**establishing a regional settlement profile**' for SADC. It examines the development trends influencing the region's settlement patterns and emphasises the significance of cities. The chapter discusses the need for a shared regional settlement profile using the South African settlement typology as an example and offers an analytical profile that utilises combined datasets to analyse the evolving settlement landscape in SADC. The chapter concludes with several recommendations to indicate what the process would be to create or improve a settlement typology to achieve some of SADC's objectives.

Chapter 7: The role of infrastructure in regional trade in the SADC region

Regional infrastructure is one of the major determining factors of regional integration. Efficient infrastructure networks play a key role in enhancing international and regional connectivity and facilitating international trade through the free flow of goods and services across borders, enabling countries to gain from a better and more efficient allocation of resources. Both hard and soft infrastructures matter for countries to improve their trade potential. The objective of the chapter is to probe into the association between infrastructural development in the SADC region and regional trade within SADC. The study first undertakes '**a hard and soft infrastructure diagnostic of the region**' and investigates the challenges that exist. The main components of infrastructure are probed into, and various indicators are used to analyse the infrastructure landscape in the region. Second, the analysis probes into trade integration within the SADC region and its association with regional infrastructure. The findings show a strong and positive correlation between regional infrastructure and regional trade across SADC member states. By focusing on a regional policy approach, SADC member countries need to make significant progress in addressing infrastructure deficits to boost their trade potential and thus enhance the region's economic development.

1.3.3 Part 3: Economic and trade perspectives

The third part of the book is dedicated to understanding and exploring the economic composition and the role it plays in the trade and industrialisation of the region. This section further includes a case study of the mining sector, as a large player in the SADC's economy.

Chapter 8: The influence of location on the competitiveness of SADC industries

Chapter 9: The road less travelled: Exploring the untapped potential of intra-regional trade in the SADC

Chapter 10: Regional integration and industrialisation in the SADC: A comparative analysis of developing regions

Chapter 11: Artisanal mining in the SADC region: Lessons learned from the Kimberley artisanal mining case on formalisation

Chapter 8: The influence of location on the competitiveness of SADC industries

Firms seek to maximise profits, a decision rule that is stringently imposed by the dynamics of capitalist competition. Hence, industrial location matters in the competitiveness of industries. Given the significance of location in the competitiveness of industries and the investment decisions of firms, this chapter aims to enhance the understanding of the '**influence of location on the competitiveness**' of the SADC industries. While globalisation and the accompanying technological progress have inspired the thinking that industrial location and geography do not matter in contemporary times, practical evidence suggests otherwise. For instance, the significance of industrial location has been prevalent in the variations of economic and development performances of countries and regions, the geographic concentration of leading firms or industries within nations or regions, and the location decisions of multinational enterprises (MNEs). Despite an apparent shift in the paradigms on which the principles of industrial location are grounded, it is acknowledged in this chapter that each location may uniquely possess something that it can offer relatively competitively. The locational factors influencing the competitiveness of SADC industries were identified as being land-locked/sea-locked, resources, human capital, infrastructure, technology, economic and political stability, market-related factors, agglomeration, and regional integration. Part of the recommendations of this chapter is that the SADC regional grouping must strive to create a productivity-enhancing regional system and technology-based ecological ambition that can possibly support the transition to a new path of development centred on enhancing regional competitiveness.

Chapter 9: The road less travelled: Exploring the untapped potential of intra-regional trade in the SADC

Trade agreements in Africa, including the SADC, have developed at a faster pace than the coordination of any regional development policy initiatives.

Regional policy and trade agreements are, however, in support of each other, and it is the latter concept and characteristics that are **analysed** in this chapter.

Key aspects to consider in evaluating the import-export characteristics in the SADC include an overview of existing patterns and protocols. Trade can help stimulate growth and development, but this depends on what the member countries export rather than how much they export. In addition, the spatial impacts of existing policies aimed at increasing diversity of exports versus diversifying destination markets are very different. Understanding implications for skill and technology requirements on policy formulation is also a key consideration in the analysis of existing policy and protocol. A further key insight for regional development policy formulation flowing from more **recent research** in the international trade research environment is that policymakers must be aware that it also matters 'what' the economy produces and 'how' it produces.

The main **objective** of this chapter underlying the regional policy brief is, based on existing patterns, to identify potential opportunities for trading goods and services using an alternative approach (also endorsed by the World Trade Organisation (WTO)) known as the 'Decision Support Model' (DSM) approach. The DSM was specifically designed to assist with the selection of the most promising markets for a given exporting country to assist export promotion organisations in planning and assessing their export promotion activities.

Chapter 10: Regional integration and industrialisation in the SADC: A comparative analysis of developing regions

Developing regions, including SADC, compete in the flow of trade and factors of production. Regional policy seeks to position the region to attract capital, skilled labour, and advanced technology to catalyse industrial productivity, innovation, and long-term economic growth. Increased regional integration and industrialisation have the potential to increase intra-regional trade and enable economies of scale, technology acquisition, and capital formation. However, the competitiveness of the SADC is limited due to restricted diversification, barriers to trade, and reliance on primary activities and exports with price fluctuations and low-value addition. This chapter undertakes a comparative analysis of '**regional integration and industrialisation**' among the SADC and developing regions and delineates regional policy recommendations for enhancing the region's competitive positioning. A quantitative research methodology is applied using secondary data to rank the SADC among nine other developing regions. The findings indicate that industrial exports, employment, value addition, and competitiveness are comparatively lower in the SADC. This is also the case with physical and non-physical infrastructure, while intra-regional trade and labour mobility are below the sample average. To increase the competitiveness of the SADC, regional policy

ought to prioritise deeper economic and spatial integration, including trade liberalisation and improved quality of trade-facilitating infrastructure. This will strengthen resource-based industrialisation (RBI) through regional value chains that exploit the competitive advantages of member countries while also increasing industrial value addition, labour productivity, and employment. Supranational institutions ought to be sufficiently capacitated to oversee the policy harmonisation process and coordination of regional policy interventions.

Chapter 11: Artisanal mining in the SADC: Lessons learned from the Kimberley artisanal mining case in formalisation

Artisanal mining plays a significant role in the SADC region, contributing to livelihoods and income. However, its informal and unsustainable practices lead to environmental degradation, social inequalities, and economic volatility, triggering conflicts and undermining regional policy objectives. This paper emphasises the need to address hazardscapes and conflicts associated with artisanal mining through conflict management mechanisms, improved health and safety standards, and a clear regulatory framework. Mining activities also disrupt development corridors and infrastructure plans, hindering regional connectivity and sustainable development. To tackle the social and environmental consequences of artisanal mining, measures promoting social inclusion, protecting miners' rights, empowering local communities, and enhancing stakeholder cooperation are essential. Integrating principles and guidelines from African Mining Vision (AMV) into national policies can enhance sustainable development in the '**artisanal and small-scale mining (ASM) sector**'. Formalisation is vital for achieving the Sustainable Development Goals, reducing conflict and illegal mining, and fostering social and economic development in mining communities, unlocking the full potential of artisanal mining for the SADC region's benefit. The case study of Kimberley, South Africa, highlights artisanal miners' challenges and the formalisation process's success factors, providing valuable insights for shaping effective policies in the region. By implementing the recommended strategies, SADC countries can harness the potential of artisanal mining while mitigating its negative impacts, fostering a more sustainable and responsible mining sector that benefits both the miners and broader society.

1.3.4 Part 4: Future perspective

The final part of this book includes a synthesis of the preceding chapters and aims to provide a future perspective regarding an integrated policy approach for the SADC.

Chapter 12: A regional policy approach for the SADC

Chapter 12: A regional policy approach for the SADC

Regional policy in the SADC could influence the supranational and subnational locational decisions of government and industry by offering inducements to investors through tax incentives, grants, subsidies, regional employment premiums, and so on. Therefore, developing and implementing a supranational regional policy could be considered a step towards modernising and restructuring the economic foundation of this peripheral region by encouraging a shift towards a more sustainable and efficient production model while also ensuring that it remains consistent with the underlying subnational objectives. A **threefold regional policy analysis** was relevant throughout this book, i.e., (i) analysing policies that currently follow a silo approach in an integrated manner, (ii) the investigation of said policy guidelines through the determination of functional planning instruments in the form of physical infrastructure, and iii) evaluating existing and potential trade and economic interactions among the member states of the SADC.

The concluding chapter aims to integrate spatial and sectoral policy frameworks and practically apply the goals and objectives through the appropriate and timely application of spatial targeting instruments within the SADC as a developing region. Proposals for the determination of regional development policy for the SADC, coupled with an implementation agency to facilitate progressive integration and interaction, are provided.

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Part 1

Policy perspectives

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2 Regional policy in the AU and SADC

J. Ernst Drewes and Mariske van Aswegen

2.1 Introduction

The focus of this chapter, and the book in general, suggests a broader and geographically focused view of regional policy. Recognising that regional policies vary from place to place and over time, they would typically involve the pursuit of one or more of the following goals: reduction of regional disparities, whether for reasons of economic efficiency, political stability, social justice, change in growth patterns of population and economic activity in space, and improvement in resource allocation by reducing unemployment and promoting relatively rapidly growing sectors.

An attempt is made in this chapter to identify and describe the character and objectives of regional policy, as well as its role in socio-economic development initiatives. The formulation and determination of regional policy guidelines for SADC (see Chapter 12) will attempt to modernise and restructure the economy's productive base by inducing a locational shift corresponding to a more effective pattern for efficient production while still being consistent with relevant national aspirations.

However, this chapter aims to provide an overview of development policy matters in the African Union and SADC and present a fundamental theoretical framework for determining appropriate, sustainable, and resilient regional policy. The latter fundamental grounding of regional policy will reflect on the core concepts of regional planning, appropriate policy designation, relevance to urban systems, and the temporal impact of urban maturation, which impacts the development status of a region. This will then be further interrogated in more detail throughout the subsequent chapters.

2.2 Regional planning

The Great Depression (1930s) generally had a profound and lasting effect on spatial planning. A relatively *laissez-faire* attitude to economic and spatial development prevailed before this. The primary lesson of the Depression was that capitalist economies were not necessarily self-correcting (Meyer, 1968). They required management and control. Consequently, a new demand for state investment and management to absorb unemployment and revitalise

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investment was expressed. This resulted in political action, particularly in Europe and North America. This reactive orientation of regional planning had become more oriented towards rational, longer-term management and was increasingly viewed as an addition to macroeconomic planning. Regional planning for depressed areas became an essential aspect of Keynesian demand management techniques, which dominated national economic planning at the time (Dewar et al., 1986).

In terms of regional planning, Hirschman first proposed that creating deliberate imbalances might be a superior way to achieve growth, i.e., unbalanced growth. According to Hirschman (1958), there can be little doubt that an economy must first develop one or several regional centres of economic strength within itself to acquire higher income levels. This need for the emergence of growth centres during the developmental process means that international and interregional growth inequality is an inevitable concurrent growth condition. Therefore, in a geographical sense, growth is necessarily unbalanced (Lall, 2011). This can be translated into sectoral and spatial imbalances (Richardson, 2011). The main aim of regional planning, namely, regional balance, can only be attained using balanced or unbalanced growth.

When more productive regions can allow them to make more significant investments in infrastructure, they capture economic activity from less productive mega-regions. Such competition is 'healthy' to the extent that more productive regions are likely to grow faster than less productive mega-regions, making the whole urban system (see Section 2.4), on average, more effective (UN, 2020). The principles of increasing returns to scale, distance decay and transport costs, cumulative causation, imperfect competition, and interregional versus international trade all relate to the concept of New Economic Geography (Richardson, 2011) and form the basis for creating imbalances regionally in an effort to uplift the appropriate region.

Accordingly, regional planning and regional policy determination gained considerable momentum after the Second World War. The United States, Great Britain, Western Europe, and former socialist Russia and Eastern Europe embarked on similar development programmes for reducing interregional development gaps by focusing on urban-industrial manipulation of natural resources in a region (Rambanapasi & Darkoh, 1998).

The famous Tennessee Valley Authority programme in the United States was established in this natural resource-based regional planning era. The horizontal integration of these national space economies took preference, as opposed to traditional vertical integration. The United Kingdom's renowned new town strategies, supporting recent subnational regional planning initiatives, formed part of this regional restructuring. Domestic pressure from these Eastern European countries and the UK steered the formation of regional development agencies in the countries above. This gave way to concepts like 'new regionalism' in the 1990s when it became evident that strong forces of economic change gave prominence to regions. This was mainly a result of barriers between countries being broken down and the rise of

globalisation (Glasson & Marshall, 2007). It was a time when entities like the European Union, the International Monetary Fund (IMF) and the World Trade Organisation (WTO) initiated economic development norms.

Formalising these new-found approaches in spatial planning and organisation formed the cornerstone of many subnational policies, especially the British colonial countries in the SADC. Accordingly, the reorganisation of countries in the SADC after independence from colonisation represented similar structural problems to the above European and North American countries and regions. In the SADC, these included persistent interregional inequalities regarding socio-economic development; a skewed urban hierarchy; infrastructural inequalities; a stagnant productive base as a result of unexploited natural resource potential and persistent underdevelopment; and an increased rural population resulting from reduced agricultural carrying capacities and a lack of urban-industrial expansion. These problems continue to increase urbanisation levels in limited urban centres, particularly primary cities (Rambanapasi & Darkoh, 1998). Many years after attaining independence, these problems still exist in most SADC countries.

The response of the SADC countries to the above structural problems was similar to the post-war scenarios mentioned above, i.e., by implementing subnational (see Chapter 4) regional planning policies focused on spatial inequalities and underdevelopment. In conclusion, based on history, the SADC has followed a pre-determined development path in terms of each of the subsystems, i.e., the metropolitan regions, the secondary cities, and the small cities and settlements.

2.3 Regional policy

As described above, policymakers have increasingly realised the need for development strategies to reduce spatial differences. Global entities like the World Bank have taken the initiative to compile guidance for policies that guide the spatial and sectoral composition of public investment (Lall, 2011). This integrated policy approach generally reflects various sectors like agriculture, transport, and infrastructure, and is usually referred to as regional policy (Capello & Nijkamp, 2009: 3).

Regional policy is designed to tackle the challenge of uneven development in specific areas, particularly in developing nations. This policy differs from other policies, such as agricultural policy, which may impact multiple regions. The 'regional problem' arises from differences in production conditions or distribution within a particular area or government recognition of the political implications of change in certain regions. Diverse scholars, including Friedmann (1966), Bourne (1975), Johnston, Gregory, & Smith., 1986: 398), Armstrong and Taylor (2000), and Hall (2011), have explored this concept.

The scientific concept of 'regional policy' has been used to facilitate various objectives and has been met with differing degrees of success (Hansen,

Higgins, & Savoie., 1990: 282–284). Internationally, regional policy and issues relating to regional policy have been implemented on various levels of government with wide-ranging levels of detail and intensity. Definitions and descriptions of the term and its application differ quite significantly in the literature (see Friedmann, 1966; Needleman, 1968; Williams, 1996), and except for Richardson (1981, 1987a, 1987c) and Friedmann (1966), little has been written about the theoretical foundations of regional policy.

This policy focuses on the comparison of economic performance amongst different regions. It is commonly believed that long-lasting economic disparities between regions can have harmful effects (Armstrong & Taylor, 2000: 203). However, simply having economic differences between regions is not enough to make regional policy a core component of regional planning. The reason for prioritising regional policy is to address the obstacles these disparities create to achieving national policy goals, such as creating more job opportunities, economic growth, and higher per capita income. Essentially, regional policy aims to ensure that national societal goals are met (Richardson, 1987b).

The approach to regional policy has varied considerably in both developed and developing nations. Since the conclusion of World War II, regional policy has garnered significant interest and produced outcomes that are both beneficial and unfavourable (Hall, 1999). The substance of regional policy has fluctuated immensely amongst and within countries and regions in recent decades. In contemporary times, there has been a heightened emphasis on environmental preservation, citizen participation, and post-war economic objectives (Armstrong & Taylor, 2000; Horio, 2011).

Traditionally, regional policy has been formulated to uplift the poorest regions, the smaller towns, and the rural areas (Friedmann, 1966). It was usually as a response to specific socio-economic or political problems in the above regions that these policies were formulated to relieve these tensions (Foust & de Souza, 1978; Taylor & Armstrong, 2000). This chapter argues that regional policy should be proactive in the formulation process, i.e., existing socio-economic trends must be supported, and future trends must be anticipated in formulating effective regional policy (see also Richardson, 1987c; Hoover & Giarratani, 1985). Urban system and urban maturation models, specifically the differential urbanisation model, are helpful in formulating regional policy to support existing and future trends.

2.4 Urban systems

The concept of urban systems, and the systems theory, was founded in the 1960s, referring to a network of interacting nodes rather than focusing on individual cities (Friedmann & Weaver, 1979). This concept was based on research by Boudeville (1966: 10–17), who noted that 'towns form a hierarchic polarized system through which economic growth will materialize'. Using the concepts of central places in geographical space (Christaller,

1966) and growth poles in economic space (Perroux, 1950), Boudeville distinguished between nodal and polarised regions. A polarised region is a set of neighbouring nodes exchanging more with the regional node than other nodes of the same order. A nodal region, on the other hand, does not necessarily refer to several nodal points.

Friedmann's (1966) research suggests that the delineation of urban networks is typically carried out at a national or regional level for the purposes of spatial planning. However, as economies become increasingly integrated on a global scale, the relevance of the international urban system has grown due to the decreasing 'distances' between cities. By adopting an urban systems approach, regional planning and policy formulation can be improved by providing a management tool to manage urban settlement sizes effectively. This section aims to demonstrate the role of regional policy formulation within the urban systems approach, particularly in relation to various urbanisation patterns that are relevant to such a system. The ultimate goal is to enable more effective management of different settlement sizes throughout the urban maturation cycle.

Based on this premise, the formulation of regional policy needs to be evaluated against the background of the urban system as an integral part of the national space economy, i.e., an economy dynamic over space and time. This spatial system has three primary dimensions: structural, spatial, and temporal. Structural refers to the hierarchical or vertical organisation of a nation's regional economies. This organisation also has a spatial expression that is, in turn, contained within the geometry of time (Bourne, 1975).

Firstly, static equilibrium approaches (settlement theory) do not recognise the complexity of the subnational or regional systems, in which activities, natural endowments, culture, skills, education, health, transport, house prices, and the global economy all combine to affect the evolution of the system (Allen, Strathern, & Baldwin., 2008). Systems theory supports this, which regards any singular system as part of a more extensive network of systems (Kerzner, 1992). According to the systems theory, any system is usually part of a sub-system, and this is again part of a more extensive system, forming a hierarchy of systems. The above systems view, or systems theory within spatial planning, is widely acknowledged (Roberts, 1985).

As populations gravitate towards urban areas, various shifts in demographics, economy, and geography can impact the interconnected systems that make up a city. Urban centres play a crucial role in driving growth within these systems, which can then be distributed throughout the more comprehensive national spatial system as a country develops. Over time, this process can lead to creating a multi-nuclear system with strategically placed sub-centres as the periphery surrounding metropolitan areas becomes more integrated with nearby economies. The ultimate objective of this spatial organisation is to achieve national integration, efficient location of individual firms, maximum potential for growth, and essential interregional balances. Once these objectives have been met, the final stage of organised complexity has been reached.

Urban systems represent physical places where people live and work together. At the same time, the other urban infrastructure systems (transportation, energy, water and wastewater, housing, telecommunications, and green infrastructures) create and determine the conditions of such living together. These systems are, in turn, shaped by the city's environment, urban society, the urban economy, and the institutions in place, thus forming one dynamic socio-technical system (Finger & Razaghi, 2017). On a global scale, the new interregional division of labour introduced by the information society leads to three simultaneous processes: (i) the reinforcement of the metropolitan hierarchy throughout the world by the main existing nodal centres that use their technological potential and the new technologies to extend and deepen their global reach; (ii) the decline of the old dominant industrial regions; and (iii) the emergence of new regions or new countries (Sjøholt, 1997; Castells, 2000). Globalisation as an instrument of economic growth, therefore, poses a threat to 'business as usual' policies for cities worldwide. Simultaneously, it provides new opportunities for growth and prosperity.

Spatially, agglomeration can intensify inequality within and between cities in the national and global urban systems. National governments must adequately manage their system of cities across the urban continuum to balance agglomeration benefits with the potential negative consequences of 'superstar city' formation that leaves smaller cities and rural areas behind (UN, 2020). This constant monitoring process reflects the continued operation of regional policy monitoring and formulation.

Identifying and classifying the various components and layers of urban systems must also be differentiated from a chronological perspective (Capello & Nijkamp, 2009). With the focus on metropolitan systems, the development process (Rostow, 1971) for establishing and continuing development is deemed necessary. Metropolitan regions form a specific morphological entity within the spatial planning sphere. The realisation of such a system follows a development cycle described, amongst others, through the differential urbanisation process. The latter approach was coined in the 1980s when a metropolitan migration turnaround in the United States and several European nations saw comparably more people and economic activities migrate from metropolitan to non-metropolitan areas than vice versa, i.e., a prevailing net movement down the urban hierarchy within the urban system (Champion, 1989b; Frey, 1995).

As urban systems evolve, they undergo distinct phases. In the initial stage, known as the primate city phase, primary centres attract significant economic activity and migrants. As the system matures, new centres emerge in lower-order areas while existing centres ascend the urban hierarchy, resulting in more dispersed economic development and a centralised urban system. In the third stage, growing urban systems establish structured subsystems at various levels, from the national to the regional and district levels. Urban system development trends, such as concentration and deconcentration, are evident at the lower levels of the hierarchy, as similar forces work at the national and

regional/district levels. In a developing urban system, intermediate centres that are physically closer to metropolitan centres typically experience more development.

Through this decentralisation process in the later phases of urban system development, the primate city displays a polycentric structure that dominates within the relevant urban system. In regions with more than one primate city, they usually indicate a different stage of development (Geyer & Kontuly, 1993). Empirical data show that at some point in the spatial development of most regions, these primate cities begin to mature as their growth rates slow down and spatial deconcentration is initiated (Elliot, 1997).

Maturing primate cities usually reflect growth in secondary centres close to the primate city – this turnaround is known as *polarisation reversal* (Richardson, 1977). The above development process will repeat itself in ever-decreasing temporal cycles. Empirical testing found that the temporal characterisation model fit reality in developed and developing countries, including Finland, Italy, Turkey, South Africa, Britain, Germany, Russia, and India. Urban development followed the sequence of stages proposed by the model. It is also important to note that the model did not accurately characterise urbanisation trends in Estonia, which can be explained by severe policy interventions and significant changes in political-economic conditions (Geyer & Kontuly, 2003; Geyer et al., 2012). However, it must be noted that it is not only First World regions that display these forces of cumulative causation, as developing systems like the Gauteng City Region (South Africa), Sao Paulo (Brazil), and Singapore show comparable patterns and structure, although at lower levels and scale than the more developed cores above. Urban systems are, by their very nature, never in equilibrium, and many behaviours of both actors and subsystems will be both unpredictable and emergent (Finger & Razaghi, 2017). There will be growth and possibly decline stages, with numerous factors, including sustainability and resilience, being primary determinants of its path.

In summary of this first section on fundamental growth and development theory, it is essential to understand and focus on the following concepts when determining regional policy. These are the (i) appropriate focus of geographical scale regarding strategic planning, i.e., regional planning. (ii) Regional policy forms the dynamic dimension of regional planning, focusing on relevant and integrated resource planning and management for a specific region or combination of regions. Within the relevant region, it is crucial to understand that all urban areas form part of a (iii) hierarchical and interconnected network, as determined by systems theory. Lastly, within this region and network of nodes, (iv) temporal perspectives through the differential urbanisation theory impact the appropriate choice and combination of policy options in formulating applicable regional policy.

The second part of this chapter focuses on the study area regarding its role in the African Union, the formation of entities that later became the Southern

African Development Community (SADC), and relevant policies that focus on sectoral development initiatives in the region.

2.5 African Union

Similar to the establishment of the European Union as a result of a combined development focus, the formation of the African Union provided a platform from which African countries could express themselves freely in the global space and represent the citizens of Africa when important international decisions are made (AUC & AUDA, 2022). The African Union (AU) was officially launched in South Africa following its predecessor's decision in September 1999 to create a new continental organisation. The AU supports a Pan-African Agenda that acknowledges the need for cooperation of different African countries, with the primary objective of economic and social development throughout the continent. Collaboration and integration between other African countries were envisaged to achieve growth and socio-economic upliftment.

From the AU came its central development policy, namely the New Partnership for African Development (NEPAD) and Agenda 2063, which covers various aspects concerning economic growth, integration, political issues, social relations, and the security of the residents. Given that the SADC supports the intention of NEPAD, the SADC is therefore used as a platform to promote integration and outcomes of the NEPAD programme.

The main goals of NEPAD can be summarised as follows (AUC & AUDA, 2022):

- To eradicate poverty;
- To place African countries, both individually and collectively, on a path of sustainable growth and development;
- To halt the marginalisation of Africa in the globalisation process and enhance its full and beneficial integration into the global economy; and
- To accelerate the empowerment of women.

These outcomes support the role and linkages between the SADC and the NEPAD programme. This is a typical example of how a top-down approach to strategic planning is implemented into the lower-order framework and institutions. The common objective or goal could be enhanced and supported from the bottom structures upwards by aligning the lower-order frameworks. This should be used as a guideline and approach to influence spatial and regional planning in the sub-continental study area.

The cooperation between different countries enhances the possibility of establishing regional and continental integration and an interrelated urban system. With the establishment of an acknowledged urban system, Africa could engage in international relationships, which in turn could aid in the economic growth of the African countries. NEPAD has identified priorities

that need attention to pursue the NEPAD goals and underlined in the different institutions, specifically the SADC. According to AUDA (2022), the priority areas for NEPAD include the following:

a) Establishing the *conditions* for sustainable development by ensuring:
   - Peace and security;
   - Democracy and good political, economic, and corporate governance;
   - Regional cooperation and integration and capacity building.

b) Policy reforms and increased investment in the following priority *sectors*:
   - Agriculture and the Environment;
   - Human development with a focus on health, education, science and technology and skills development;
   - Building and improving infrastructure, including information and communication technology (ICT), energy, transport, water, and sanitation;
   - Promoting diversification of production and exports, particularly concerning agro-industries, manufacturing, mining, mineral beneficiation, and tourism;
   - Accelerating intra-African trade and improving access to markets of developed countries.

The AU also confirmed the importance of regional trading blocs to promote social and economic development through integration between countries. The regional partnerships should aim to negotiate free trade areas that could roll out on a much larger geographic scale. The SADC is one of the pillars of these identified regional economic blocks, headquartered in Gaborone, Botswana. The aims and ultimate goals of the SADC are to further socio-economic integration and to secure the political environment and cooperation. Therefore, supporting the SADC's role in achieving integration between the countries is essential.

Based on the goals and the priority areas above, the main issues involve sustainable development, policy frameworks, and aspects aimed at accelerating economic growth in the regional space. These areas should be supported by implementing an effective urban hierarchy in the spatial system that could be used to drive and promote the achievement of these three areas. The role of an urban hierarchy would become apparent when effectively implemented in the sub-continental study area (see Chapter 5). In short, this approach could help to strategically identify the most viable locations for economic growth and development to promote sustainable development and regional balance.

2.6 Southern African development initiatives: A historical perspective

Before establishing the SADC, the Southern African Development Coordination Conference (SADCC), formed in 1980 in Lusaka, Zambia, supported regional cooperation amongst Southern African countries. While socio-economic

development constituted the primary motive for creating the SADCC, political considerations also played a part in its initial finding. Member countries sought to encourage comprehensive political liberation in the region. Increased cooperation between majority-ruled countries in Southern Africa was envisaged to decrease their dependence on South Africa and increase their shared economic and political influence in the area (SADC, 2012).

The closer collaboration amongst Southern African countries started when Angola, Botswana, Mozambique, Tanzania, and Zambia met regularly to coordinate support for the different liberation movements in the region. The nine independent countries of Southern Africa, namely Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia, and Zimbabwe, later transformed the 'SADCC' from a coordination conference into SADC, the Community. The economic dimension was added to deepen cooperation and integration and increased its membership to 15 with Namibia, South Africa, and Mauritius's admission in the 1990s. Seychelles, the Democratic Republic of Congo, and Madagascar followed suit (SADC, 2012).

Another essential administrative structure, namely the Southern African Customs Union (SACU), was already established in 1910 between the Union of South Africa and the three so-called High Commission Territories of Bechuanaland (now Botswana), Basutoland (now Lesotho), and Swaziland. Namibia joined SACU in 1990 upon its independence from South Africa. The SACU Agreement was renegotiated in 2002 and entered into force in 2004. The three main aspects of SACU were the free movement of goods and services between member countries, a standard external tariff, and revenue sharing of the shared pool of duties and trade taxes. The latter formula includes three components, namely custom, excise, and development. The custom revenue is distributed based on each country's share in intra-SACU imports, and the excise allocation again depends on each country's share of GDP. The development component, fixed at 15 per cent of total excise revenue, is distributed according to the inverse of each country's GDP per capita (Falilou & Gasealahwe, 2017).

More recently, a Tripartite Free Trade Area (TFTA) initiative was launched in 2008 between members of the Common Market for Eastern and Southern Africa (COMESA), the East African Community (EAC), and the Southern African Development Community (SADC). A corresponding objective was to solve the complications created by overlapping membership of the different regional economic trading blocs. All members belong to more than one trading bloc; for instance, eight members of COMESA are simultaneously members of SADC. These overlapping memberships created legal uncertainty, unnecessary costs, and delays in implementing reforms. After four years of negotiations, the TFTA was signed in 2015 by 24 countries. However, South Africa and SACU members still need to sign. The parties committed to concluding outstanding issues on rules of origin, trade remedies, and tariff offers by 2016. However, the deadline was not met, and the start of Phase

II negotiations – trade in services and other trade-related matters – has been delayed, waiting for the conclusion of the talks.

As expected, the objectives regarding regional economic development and employment creation constitute the basis of regional integration in SADC and Southern Africa. This primary objective is supported by the following supplementary goals for the region (SADC, 2012):

- Support social development in the various member countries through increased regional economic growth and development;
- Empower the various institutions of SADC to fully perform their outlined functions and oversee regional integration between participating countries;
- Ensure regional economic resilience and 'self-sustaining development' through increased cooperation between member countries;
- Ensure the productive utilisation of all the existing resources in the region to stimulate economic growth and development sustainably.

Under numerous umbrellas of increased cooperation, 15 countries are now members of SADC. At the turn of the century, Mauritius, the Democratic Republic of Congo (DRC), and Seychelles joined the regional group, and membership of SADC was completed when Madagascar joined in 2005, the Seychelles in 2008, and Comoros joined in 2018. Each of these countries is a voluntary participant in the process of integration that seeks to increase interaction through trade, the movement of people and services in the region, and working together to plan, formulate, and implement policies to ensure socio-economic development.

2.7 SADC: Existing policy initiatives

The goals of the SADC and AU form the overarching vision of the continent and the southern subregion, and several sectoral policies have been compiled to support the above. However, per the above discussion, formal regional policy has yet to be promulgated or compiled for the SADC. Numerous policies guide sectoral components of regional development, like trade agreements and social development goals. According to the SADC (552020), regional development strategies are mainly contained within the Regional Indicative Strategic Development Plan (RISDP), which dictates regional development and growth priorities in the Community to ensure greater regional parity between all the regions of SADC. However, as described in Section 2.3 of this chapter, regional policy is multi-faceted and sectorally integrated, something that is outside of existing SADC policies. Accordingly, the two central policies related to regional policy will be discussed in this section, while more focused trade and integration policies will be addressed in the relevant chapters to follow.

2.7.1 Regional Indicative Strategic Development Plan (RISDP)

The most recent SADC Treaty and SADC Protocols provide the legal framework for all activities in the region. In contrast, its policy framework consists

of new and existing policy documents that guide the Community's response to existing and emerging opportunities and challenges. Implementing SADC policies and programmes relies heavily on mobilising resources from within the Community and external sources through the SADC Resource Mobilisation Framework (SADC, 2020). It is envisaged that the funding of all regional projects will be channelled through the planned SADC Regional Development Fund (RDF).

The first Regional Indicative Strategic Development Plan (2015–2020) envisaged the promotion of regional value chains and increased value-addition in priority sectors, which included agro-processing, mineral beneficiation, and pharmaceuticals. The objective was also to increase the region's manufacturing capacity, competitiveness, and capacity to trade and consequently achieve more sustainable economic change.

The goals envisaged above align with global and continental frameworks, such as the United Nations' 2030 Agenda for Sustainable Development and the African Union's Agenda 2063. The aims of the RISDP support the SADC Treaty's quest for broader and deeper regional economic integration to () create a conducive environment to foster regional integration, (ii) mobilise resources from within the Community and external sources, (iii) improve implementation of existing SADC policies and programmes, (iv) strengthen compliance by the member states, and (iv) magnify visibility and awareness to drive the regional integration agenda.

The Regional Indicative Strategic Development Plan was revised in 2020 and set out a ten-year development agenda for addressing the region's social, economic, political, and governance issues (SADC, 2020). In a departure from past practice, the RISDP brings together issues previously presented separately under the Revised RISDP and Strategic Indicative Plan for the Organ on Defence, Politics, and Security Cooperation. The inclusion of peace, security, and governance matters in the new RISDP recognises their foundational importance in ensuring the necessary preconditions for achieving the Community's other priorities. The three core pillars of the RISDP are (i) Industrial Development and Market Integration, (ii) Infrastructure Development in Support of Regional Integration, and (iii) Social and Human Capital Development, anchored in policies related to peace, security, and governance. In the context of these pillars, numerous goals and priority areas have been formulated, including priority areas like security, market integration, social development, climate change, and disaster risk management (SADC, 2020: 11). The RISDP continues to provide strategic guidance in the form of actions, interventions, targets, and timelines that will, potentially, deepen integration in SADC.

However, of importance to this and the following chapters is that no sub-regional spatial application has been included in these policy documents, i.e., the existing and previous RISDP have no explicit spatial footprint other than the whole SADC region as a spatial reference. For example, guidance must be provided for spatial priority areas for *social and human capital development*,

market integration, *industrial development*, etc. A review by the Organisation for Economic Coordination and Development (OECD) of regional development policies in its member states concluded that instruments used to promote regional development in different regions should reflect spatial specifics and adapt to different regional contexts (OECD, 2018: 20). Development policies that combine policies across other sectors to unlock the growth potential of 'regions' need to reflect on *places*.

2.7.2 Infrastructure development policy

The other development policy that closely relates to regional policy in the SADC refers to infrastructure master plans. An analysis of the previous Regional Infrastructure Development Master Plan (SADC, 2012) revealed that the region faced numerous challenges concerning inadequate regional infrastructure. The said RIDMP aimed to instil a sense of urgency for the region to expedite the implementation of strategies to bridge the main gaps and eliminate blockages to unlock the regional potential of SADC.

This Regional Infrastructure Development Masterplan (SADC, 2012) was based on six pillars: energy, transport, information and communication technologies (ICT), meteorology, transboundary water resources, and tourism. The six infrastructure pillars were, on their part, based on existing policies and regulations and supported by a joint pool of human resources in a concerted effort to create public awareness and commitment to these goals. A positive contribution of this policy was its spatial focus for specific regional infrastructure projects. These included under-sea communication cables, regional water provision across borders, transportation corridors, fibre links throughout the SADC, and tourism focus areas in cross-border locations (SADC, 2012).

A revision of the abovementioned infrastructure master plan in 2019 declared that the member states were lagging in implementing the identified projects. At this time, it was determined that 95 per cent of the projects within the six sectors still needed to be completed. The study attributes this unfavourable position to various factors (SADC, 2019). One reason is insufficient spending on infrastructure. Infrastructure spending in Africa is about 3.8 per cent of GDP, whereas India and China spend 4.7 per cent and 8.5 per cent of GDP, respectively. In addition, the study observed a funding mismatch between member states and funding partners. Member states cite the need for more funding for infrastructure projects, whether national or regional, yet the funding institutions are looking for viable projects to invest in. Only some projects have properly prepared bankable proposals that attract funding. Member states find more value in implementing their national projects as opposed to those of a regional nature. This explains why the national project priority list does not always mirror regional priorities.

A positive contribution of the revised RISDP was prioritising projects to identify projects with a robust regional impact that would catalyse

industrialisation per the RISDP priorities. In this regard, out of the 397 infrastructure projects in the RIDMP, 239 high-impact priority projects were identified, corresponding to indicative coordination costs amounting to US $253 million and total indicative investment costs amounting to US $398 billion for 2015–2020 (SADC, 2019). Regarding regional policy implications, this provided a positive contribution based on its specific locational and temporal indicators.

2.8 Regionalisation and conclusion

In a review of spatial planning policy throughout the world, the International Society of City and Regional Planners (ISOCARP) found that most countries failed in their attempts towards more balanced development because of 'weak or non-existent' regional planning (Ryser & Franchini, 2015: 7). This refers specifically to planning policy in the intermediary level between national and local governance levels. Based on the analysis of more than a hundred countries, it was evident that countries with federal structures fared better at attaining a more balanced polycentric development structure in the long term. On the other hand, countries following a welfare approach to society and planning, without explicit regional policy instruments to tackle excess polarisation, gentrification, land flight and shrinking towns, suffered intrinsic inertia regarding spatial transformation.

As is evident from the above discussion, regional planning is one of the most challenging levels of planning to operationalise. The difficulty emanates from the middling position of a region between the national design oriented towards a clearly defined purpose before embarking on it (Rambanapasi & Darkoh, 1998). The middling position of a region means that regional planning is not a single and isolated process; instead, it is a complex, multi-activity, multi-organisational process, making careful design a fundamental prerequisite. In many SADC countries, regional planning is approached in a rather simplistic manner as just another level of planning. Consequently, quite a critical number of its components need to be more adequately conceived or assumed. As evident from SADC policies, countries prefer to focus on their priorities and tend to leave interregional projects on the back burner. The knowledge that investments that improve connectivity amongst places can generate high economic dividends for all involved needs more support in the SADC. Explicit policy focused on bringing distant locations closer to markets and shrinking the distance between leading and lagging regions must be prioritised. Building on available development principles as mentioned in Section 2.2, namely economics of scale, distance decay and transport costs, and cumulative causation, provides us with the instruments for unbalanced development initiatives in the SADC. Regional differences need to be reflected on and adapted into appropriate regional policy. Regions far more advanced than the SADC have provided a track record of these imbalances' importance in advancing a region's development goals.

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3 Understanding the role and potential of the peripheral region

Mariske van Aswegen and J. Ernst Drewes

3.1 Introduction

Globalisation, a rapidly changing economic landscape, innovation resulting in leaps in communication and technology, and the 4th Industrial Revolution (4IR) describe a transforming world, where change happens fast, and if you do not keep up – you are left behind. The impact of rapid and continuous changes across the globe is significant for regions such as the SADC, which is already experiencing lagging growth and is unable to reach its potential. The persistent and growing inequality in the social, economic, and spatial environment worldwide is more visible than ever and increasing every day.

Regional economic integration on the African continent, especially between regional blocs, has been the focus of economic and spatial planning for decades. However, the vertical linkages to Western economies have been hindered by their colonial and neo-colonial history, political ideologies, and localised challenges of connectivity (William et al., 1997; Page 2000). Integration within and between African states is often described as feeble (Aniche, 2009) due to weak ties among these countries, which are often focused on primary products while their Western counterparts focus on manufactured goods and the tertiary and quaternary sectors. The weak horizontal integration among these countries leads to further marginalisation within the world system and poor intra-African trade (Ake, 1981). The focus of economic development continues to be on the vertical and external interaction with the developed world, increasing the negative effects of a poorly integrated region (Aniche et al., 2009) and not reaping the benefits of regional economic integration.

Taking a historical view, various development theories and approaches are visible during the 20th century as part of describing the development and growth (or lack thereof) of the African continent, and subsequently the SADC region. Since the end of WWII, the term 'developing world' is often used to describe the global 'South', consisting of much of Latin America, Eastern Europe, Asia, and Africa, and characterised by social inequalities and poverty as opposed to the 'developed world'. Sachs et al. (2010) coined the period after WWII as the 'birth of the development period' and a worldwide focus on the 'underdeveloped' world was central. The focus on the Global

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South shifted to that of accelerated development and modernisation through industrial development and trade throughout the 1950s. The United Nations established three distinct decades of development after WWII, initially with a focus on integrated economic and social welfare with the key concept of improved quality of life (1960–1970). This period was later noted as a failure by the then World Bank President, McNamara, describing this shift towards economic growth alongside social development as an obstacle to growth. During this phase, a focus was visible on the classical economic theories of the developed world, implicating a focus on modernisation and national development strategies to establish national growth (Potter, 2012). The focus at the time was still largely on dependency theory (refer to Section 3.2.3).

Within the Global South, and specifically the African continent, however, a revolution in liberated states, capitalist ideals, and communist rhetoric were more apparent. The decade thereafter (1970–1980) focused efforts on an 'International Development Strategy' (Sachs & McArthur, 2005). During this time, there is a visible shift towards self-reliance and the basic needs approach. The decade thereafter, the 1980s, was pertinent in a South-South approach towards economic activity, including Bilateral Investment Treaties (BITs), Bilateral Trade Agreements (BTAs), and Bilateral Investment Promotion and Protection Agreements (BIPPAs). These agreements focused on establishing favourable conditions in terms of tax incentives and profitability in an approach to increase Foreign Direct Investment (FDI) among member states of regional blocs, i.e., SADC. This development phase was characterised by a focus on capacity building, large-scale infrastructure interventions, and a neo-liberalist approach, as well as a more inclusive bottom-up developmental focus (Binns et al., 2012).

Worldwide, a subsequent second phase of more evolved and integrated approaches is visible from the 1990s, attempting an alternative approach towards more localised and self-reliant success (Binns et al., 2012). This was, however, not the case for most of the African continent, still buckling under developmental and societal issues unique to the developing world. From this, it is evident that literature on African development is often focused on foreign aid and its effects and benefits on the continent, lacking an inward focus on inter-regional trade and beneficiation (Andrews, 2009). A further focus is on the difficulties experienced regarding structural and integration policies.

A new developmental focus was globally instigated in 2000 with the Millennium Development Goals (MDGs) with a three-pronged encompassing approach to economic, social, and environmental views. The initial eight development goals were updated in 2015 to the now 17 Sustainable Development Goals (SDGs). Once again, the marginalised countries are lagging in achieving these goals due to various inherent characteristics and self-reinforcing triggers (refer to Section 3.2.4).

This chapter introduces the SADC as a planning region, but a unique one, as it is also a peripheral region with vast untapped resources and opportunities. The focus is furthermore on generalised regional policy initiatives, as

planning instruments, on furthering the development of the region in a cohesive manner, which will be explored in more detail in the final chapter of this book. The subsequent sections will focus on establishing reasons for lagging and sluggish development within the SADC, which could be ascribed to its position as a peripheral and marginalised region in the world.

3.2 Understanding peripheral regions

3.2.1 A peripheral View

Friedmann (1967) established that the spatial system in its entirety is made up of two main regions, i.e., the core regions and the peripheral regions. The core has a dominance over the periphery with more intense development and growth visible in the core ascribed to earlier innovations within the core (Muniz et al., 2011). Friedmann (1966) established that this spatial system from a planning region viewpoint can be further divided. Five types of planning regions are commonly accepted: (i) core regions; (ii) upward transitional regions; (iii) resource-frontier regions; (iv) downward transitional regions; and (v) specialist problem regions (Friedmann, 1966; Kuklinski, 1970; Stilwell, 1972). Friedmann argues that the first two regions (core region and upward transitional regions) combined are regarded as the 'core' of a country, whereas the latter three regions (resource-frontier; downward transitional regions, and specialist problem regions) are deemed the 'peripheral regions' of said country. Friedmann (1966) is supported by the United Nations (1967) in their identification of typical problematic regions, i.e., underdeveloped regions in which different barriers hamper the regions from participating in development; depressed regions referring to regions that developed during the first industrial revolution, but experienced economic and social depression due to declining industries; with the third type of over congested regions referring to areas where growth has surpassed the capacity for development. Other causes for lagging or depressed regions (Van Duijn, 1979) are identified as being policy mistakes, exogenous disturbances, over-investment, the decline in the quality of the economic structure, lack of technological improvement, exhaustion of raw materials and energy sources, rising labour costs, and socialisation of demands (Capello & Nijkamp, 2009: 96; Richardson et al., 2011: 41–47) (also refer to Section 3.2.4).

Classical economist Krugman (1991) ascribes this relationship between the core and periphery as resultant of the interaction of economies of scale, market size, and transport costs – in simple terms, establishing firms where transport cost is minimised, and demand is maximised (Weber, 1929). Whereas the neo-classical theorists focus on the endogenous factors impacting the regional distribution of industries (Kaldor, 1970), including the historical development of knowledge and skills, specialisation, knowledge transfer through communication etc., Myint (1958) refers to a vent-for-surplus theory to explain the patterns of trade, especially within underdeveloped countries. The theory explains that existing surplus goods and the discovery

of new minerals stimulate trade from the resource-rich regions (most often underdeveloped) to the developed core regions. This trade acts as a 'vent' for surplus products with subsequent foreign investment and immigrant labour, furthering international trade.

3.2.2 A systems view

The world systems theory, or paradigm as some refer to it, was first highlighted by Wallerstein (1976), establishing a classification of the relationships between the developed and developing world. Each country or region is accordingly categorised as either a core, semi-periphery, or peripheral player in the global economic system (Coetzee, 2001). Wallerstein (1976) describes the world system as

> a social system, one that has boundaries, structures, member groups, rules of legitimation and coherence. Its life is made up of conflicting forces which hold it together by tension and tear it apart as each group seeks eternally to remould it to its advantage.

This dynamic world system is often utilised to describe the relationship between world regions or nations, as well as to establish a unit of social and political analysis (Aniche & Ukaegbu, 2016). This division is often referred to as a tri-modal structure (Wallerstein, 2004), which explains how the global capitalist system impacts continuing inequality due to varying levels of industrialisation in developing countries (Goldstein & Pevehouse, 2008; Ukaegbu, 2011). Each of the categories is associated with a level of development and interaction as well as a focus on how labour division is experienced on an inter-regional and transnational basis. For instance, countries within the core are found to exhibit a higher-skilled labour force focused on higher-order goods and services and capital-intensive production, resulting from their capitalist approaches in the 16th century (Wallerstein, 1974). During this time, the West established its economic advantages and essentially unequally controlled the world economy through a focus on an industrialist approach (Wallerstein, 1974; Chase-Dunn, 1983; Arrighi, 1989; Moore, 2003). The core utilises its dominance to obtain cheap labour and raw materials from the periphery, utilising it in production, and selling products back to the semi-periphery and periphery. The nations found in the core exhibit a high quality of life, high levels of education, vigorous economic growth, and superior infrastructure (Coetzee, 2001).

Opposingly, the semi-periphery is focused and labour-intensive, with basic skills labour and primary or extractive industry in general. It exhibits characteristics of both the core and periphery and is exploited by the core, while simultaneously exploiting the periphery. The semi-periphery exhibits stronger ties with the core, being able to manufacture and sell to the core regions while simultaneously being dependent on their raw materials, as

well as trading with the periphery (Coetzee, 2001). This is even more true for the peripheral regions in this classification, which continuously reinforces the dominance of the core over the semi-peripheral and peripheral nations. The periphery is characterised by low levels of industrialisation, a hampering social environment with low standards of living, poor education, and a lack of health facilities. Furthermore, the strong dependence on non-skilled labour in the primary sector and natural resources is evident. This lack of diversification, lack of infrastructure, and dependence on singular sources invokes a continuous state of underdevelopment (Yates, 2012). Scholars agree that this system is dynamic, and countries could change their classification based on internal shifts in connectivity, policy, and inter-regional and international trade (Dos Santos, 1970; Chase-Dunn & Grimes, 1995).

3.2.3 A dependency view

A dependency view on less-developed nations is a multi-faceted concept not only focused on development but also on economics and politics. It postulates that the developed world continuously and actively pursues this state of dominance over less-developed countries through various policies and initiatives (Tanyanyiwa & Hakuna, 2014). The developed world is dependent on the developing world for its cheap labour, natural resources, and as a market for its products. Dependency theorists argue that this dependency of peripheral (poor) countries on core countries is not solely because they are unintegrated but rather ***how*** they are integrated into the larger world system. Nordlund (2018), notes that the core-periphery association is often negative, focused on a dominance versus dependency relationship, which is not necessarily always to the detriment of the peripheral region. Figure 3.1 illustrates

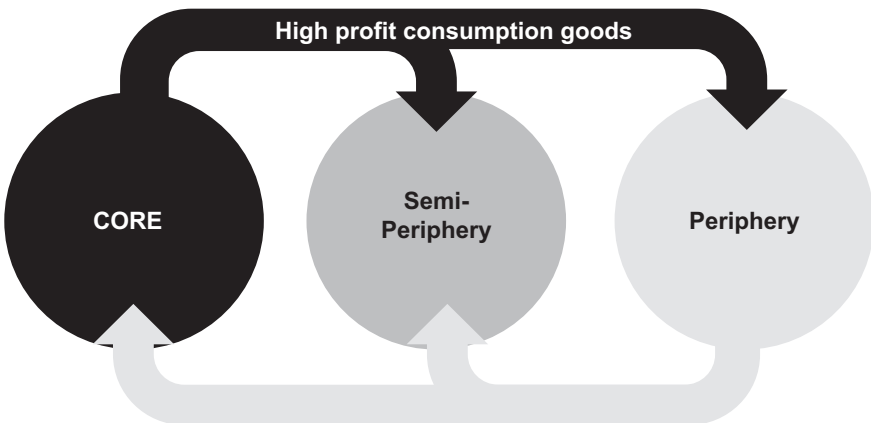

Figure 3.1 Core-periphery interdependence

Source: Adapted from Smith (2013).

this continued dependency between the three types of nations, whereas the periphery (often poor) countries provide cheap labour and raw materials to the semi-periphery and core countries. These countries in turn provide high-profit consumption goods to each other as well as to the periphery. Garza (2006) maintains that some first-world nations 'actively, perpetuate a state of dependency through various policies and initiatives'. Other protagonists of this theory uphold that the solution for this continued dependency lies within reduced linkage to core countries and establishing stronger ties through South-South cooperation (i.e., regional integration) in import-substitution and enhanced industrialisation (also refer to Chapters 10 and 11).

The SADC, as with many other developing and peripheral regions, however, receives funding support from various international organisations and funding partners, such as the European Union (EU), African Development Bank (ADB), and AU, to support development, programmes, and operations (Tanyanyiwa & Hakuna, 2014). This cycle of dependency continues as the periphery remains dependent on the core due to an inability to establish endogenous growth.

3.2.4 Attributes associated with peripheral and dependent regions

The arguments for underdevelopment in peripheral or lagging regions are multiple as attested by Collier et al. (1997) in their focus on Africa (Binns et al., 2012) and the various '**development traps**' identified and its origins ascribed to colonialism (Collier, 1997; Harrison, 2004). The **resource trap** links to the dependency view, stating that the 'resource curse' of cheap natural resources and labour led to a 'flawed integration' of the resource-rich regions with the developed nations (Gordon & Gordon, 2007). A second trap is identified as a '**conflict trap**' resulting from the resource trap after the independence of these underdeveloped nations. The conflict trap refers to the poor transition from a colony to an independent state, characterised by a weak government that benefitted from highly profitable natural resources, now in a position to directly benefit and exploit its position (Gordon & Gordon, 2007). This in turn establishes nations that are not motivated to explore other avenues of income generation and new development initiatives (Gordon & Gordon, 2007). Nkrumah (1965) upholds that this has led to a new, more subtle form of colonialism, i.e., new colonialism, describing a state that is independent in theory but still falls victim to sovereignty from an international role-player (Bond, 2006). The tensions between nations on transboundary resource conflict often run high, especially in land-locked countries (Collier, 1997) (a more detailed discussion is found in Chapter 8).

The grouping of the world system into centres and peripheries based on their geographical locality also impacts the relationship between these nations. This **marginality** (Kahveci et al., 2008) keeps marginal/peripheral nations off the centre, in effect excluding the periphery from activities originating and developing at the centre. Marginality in itself means 'at the edge

(fringe/border),' and it could be applicable across disciplines. Marginality and marginal regions have been the focus of studies since the early 1990s, with Leimgruber (1994) attempting the first definition thereof. An exact definition remains elusive, and research focuses more on the characteristics of such regions. As established by Ruddle and Rondinelli (1983), these characteristics include geographical remoteness (on any spatial scale), ecological fragility, dispersed and heterogenous populations, lack or low levels of physical and social infrastructure, poor access to towns and cities, economic backwardness, low productivity, and isolation of the masses on their political future. Gatzweiler et al. (2011) add extreme poverty to this definition as seen from a complex-adaptive system perspective, emphasising the ecological, social, political, and spatial dimensions of marginality. Pelc (2017) argues that the spatial distribution and spatial consequences of such regions should be the focus in addressing territorial marginality and adds that the kind of marginality should be determined depending on the spatial scale, i.e., global, continental, local etc.

Regional **lock-in** as detrimental to adaptability is a notion established within the economic geography. The metaphor for lock-in highlights the (often negative) tendency of an economy to get caught in a self-reinforcing spiral of uneven development and overfocus on specialisation subject to rigidity and inflexibility (Martin & Sunley, 2006). David (2005) argues that this 'trap' is experienced in economies where technology and industry become 'stuck' on a specific path, unable to transition into a new growth trajectory (refer to Section 3.3). Martin and Sunley (2006), however, reason that evolution is possible from a point of lock-in and that the connotation does not always have to be negative. Accordingly, a positive lock-in is possible when 'local industrial dynamism' is reinforced in such a manner that an increase in positive local externalities such as increasing returns and economic performance is experienced. This local inward-looking development reinforces local regional development and over time (often over decades) stimulates development from external economies. Martin and Sunley (2006) attest that this positive lock-in could, however, turn into a negative lock-in if the region does not welcome external influences (adaptability) such as new ideas, practices, and inter-relatedness (Grabher, 1993). David (2005) upholds that a region or economic system can only escape this negative lock-in or trap through an external shock or force; this is a much-debated argument, as various authors highlight that it depends on the type of external shock (Martin & Sunley, 2006), type of region (Thelen, 1999), type of self-reinforcement (Arthur, 1994), and the timing thereof (Setterfield, 2001). Grabher (1993) established that various types of lock-in could be experienced, which reminds one of the 'development traps' highlighted earlier in this section. The most recognised lock-in linking to the preceding discussion is that of functional lock-in, focused on the hierarchical dependence between economic entities. Cognitive lock-in is experienced when there exists a closed-off relationship and an

unwillingness to accept change and innovation. Lastly, the concept of political lock-in is encountered when the institutional regime does not welcome economic restructuring and uses its political agenda to hamper outside interferences. In this instance, the diversification and establishment of new firms are not supported by the powers that be, leading to a lack of dynamic growth in innovation, undiversified human skills, and hesitance in risk-taking (Schubert & Sooryamoorthy, 2010). These areas may be characterised by intense local social networks, a high degree of self-reliance among its population, and low levels of extra-local links. As a result, the level of entrepreneurship and innovation in peripheral regions is often much lower than in urban regions (Rodríguez-Pose, 1999). Table 3.1 highlights some of the more generic attributes associated with peripheral regions.

The next section will establish the concept of resilience and, more specifically, focus on regional resilience as an approach to strengthen and prepare regions for the unfamiliar. This section will speak specifically to the peripheral region and its vulnerability to exogenous and endogenous shocks and the measures available to address these shocks.

3.3 Regional resilience

The resilience concept received prominence in the regional policy debate after the 2008 global economic crisis, which led to cities and regions across the world facing a further increase in urbanisation (Turok, 2014). At the time, resilience was regarded as a concept mainly focused on settlement or local level, with less of a regional focus, but has become more prominent through scholarly focus and from an array of angles. Porter and Davoudi (2012: 330) remark that furthering the resilience concept in spatial planning offers 'concepts and methods for breaking planning out of its obsession with order, certainty and stasis', which will in the discourse of this section become more perceptible and evident. Resilience theory was initially viewed as an equilibrium state to which a return must be made after a shock or disturbance. This theory has since evolved into the school of non-equilibrium resilience. Non-equilibrium resilience establishes two views, i.e., one of the multiple states of equilibrium to which a system must return after a shock to be regarded as resilient (Ahern, 2011; Desouza & Flanery, 2013) and, secondly, establishing systems as unable to return to the initial state of equilibrium and evolving along a new path towards resilience (Lhomme, et al., 2013; Lu & Stead, 2013). In support, Barat-Salguiero and Erkip (2014: 109) and Klein et al. (2003: 38) affirm that due to the vibrant and intricate character of urban systems, the return of any system to its pre-disturbance state is decidedly disputed (Friedmann, 2011).

Grabher (1993) established that both adaptability and adaptation of a region will have a substantial impact on the region's ability to follow a new growth path after disturbances (Godschalk, 2003; Pickett et al., 2004;

Table 3.1 Attributes of peripheral regions and associated implications

	Attributes of peripheral regions	*Implications*
Economic environment	• Mostly small (often family-owned) firms • A large share of firms in the primary sector • Limited export and research and development (R&D) technology orientation • Missing specialisation and (vertical) integration	• Low levels of productivity within the firm • High dependence on the public sector transfer payments in the primary sector • Less focus on growth • Potential for entrepreneurship in primary and secondary sectors
Physical environment	• Ecosystem goods and services are highly valued • Intensive use of natural resources as production factors (i.e., land, water, landscape, etc.)	• High exposure to natural risks, such as climate change • Increasing conflicts about the use of natural resources • Potential for eco-entrepreneurship
Social environment	• Dense networks with mutual social control; fear of social exclusion if projects fail	• Missing 'strength of weak ties' • High-risk aversion is common • May impact entrepreneurial dynamics negatively
Human capital	• Low formal qualification (tertiary education) • High levels of out-migration (brain drain)	• Low labour productivity and limited innovation potential • Low labour participation • Tertiary or management experience is lacking, which may impact entrepreneurship
Settlement structure	• Low residential density • No or small urban zones (small towns)	• Missing agglomeration economies • Limited exchange of creative human capital • Entrepreneurs cannot benefit from agglomeration economies
Accessibility	• Bad connection to basic infrastructure (train, roads, ICT)	• Relatively high costs for information and transportation • Entrepreneurs must account for higher costs
Distance	• Cognitive and organisational distance	• High transaction costs in the implementation of new products and processes

Source: Mayer and Baumgartner, 2014.

Ahern, 2011; Leichenko, 2011; Brugman, 2012; Desouza & Flanery, 2013). According to Grabher (1993: 265),

> adaptation leads to an increasing specialisation of resources and a pronounced preference for innovations that reproduce existing structures. And while the system optimises the 'fit' into its environment, it loses its adaptability. Adaptability crucially depends on the availability of unspecific and uncommitted capacities that can be put to a variety of unforeseeable uses: redundancy.

The adaptability and adaptation-based approaches bring into account and attempt to explain the geographical unevenness of resilience or a non-equilibrium approach (Ahern, 2011; Desouza & Flanery, 2013; Lhomme et al., 2013; Lu & Stead, 2013). This approach resonates with the theory of new economic geography as it addresses conceptual, theoretical, analytical, and political influences on regional resilience (Pike et al., 2010).

The notions of adaptability and adaptation are noted across the literature (Grabher, 1993; Grabher & Stark, 1997; Pike et al., 2010), all conferring that if these two notions can coincide and complement each other (Miller et al., 2010; Pike et al., 2010), a truly resilient system is possible. Such a system is recognised as one of uninterrupted growth, both by means of adaptation on its existing growth path and through adaptability towards a new growth direction to resist future shocks (De Weijer, 2013; Turok, 2014) resulting in a 'dynamic stability'.

The peripheral region is even more sensitive to shocks, generally perceived as being less resilient due to its inherent characteristics (Martin & Sunley, 2006). This links back to the characteristics discussed in the previous section. The dependence on single-sector development leaves the peripheral region vulnerable to globalisation and competition (Virkkala & Niemi, 2006). The remoteness (unintegrated character) of the peripheral region, its lack of ties with external markets, and a focus on extractive and other primary industries add even more pressure on these regions' adaptability. The lack of innovation and subsequent low levels of entrepreneurship and research and development (R&D) (Dale, 2002; Tödtling & Trippl, 2005) are a further result of most firms being owned by international roleplayers (Lindkvist & Antelo, 2007). It is noted that international firms do not focus as much on value capture, extracting surpluses from the peripheral countries and limiting opportunities for renewal and advancement (Steen & Underthun, 2011) as would typically be the case in more advanced countries (Martin, 2012). It is argued that the adaptive capacity within these peripheral regions does exist (Carlsson et al., 2014) but that the impact of external networks remains crucial to assist in extracting and nourishing the inherent capacity (Lagendijk & Lorentzen, 2007). Fitjar and Rodrique-Pose (2011) caution against the assumption that peripheral regions are inherently less resilient; this is based on the premise of stronger cognitive and organisational proximity of local networks, supported by 'soft institutional arrangements' (Carlsson et al., 2014) and the involvement of various other actors (Aarsæther & Nyseth, 2007).

Carlsson et al. (2014) uphold that the specific approach of regional resilience and its components add value to understanding the dynamics of and within regions (Hassink, 2010). This is supported by new manners in which a region can be assessed regarding its response to change and addressing the way places respond to and cope with either the slow-burn processes or shocks experienced (Pike et al., 2010). Coe et al. (2004) established that a peripheral region's integration into broader value chains and production networks determines its response to, and recovery from, shocks and slow-burn processes. They are supported by Martin (2012) in the assessment of responses of different regions to financial shocks such as deindustrialisation and the 2008 financial crisis. It was established that regions will respond differently depending on the availability of resources (MacKinnon & Derickson, 2013).

The next section will turn the focus on the SADC as a peripheral region in the world and frame the SADC as a region with immense potential but lacking follow-through in establishing a more integrated and resilient unit.

3.4 The SADC as a peripheral region

The systems view (refer to Section 3.2.2) establishes the West as the core, while the member states of the SADC can be found as both within the semi-periphery (South Africa) and the periphery (other SADC members). The implication of this systems view or tri-modal structure is a continuous inequality in industrialisation between the West and the less industrialised SADC, and a continuous inequality among member states based on their individual systems status (Aniche et al., 2009).

The Competitive Industrial Performance (CIP) Index benchmarks the ability of countries to produce and export manufactured goods competitively. Table 3.2 captures the competitive performance of each of the 16 SADC

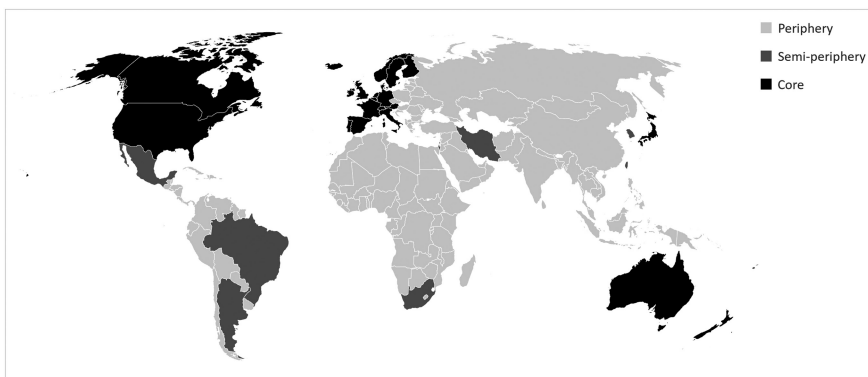

Figure 3.2 SADC in terms of the systems view

Source: Adapted from Chase-Dunn, Kawannn, and Brewer (2000) and Babones (2005)

Table 3.2 Competitive Industrial Performance (CIP) Index for SADC countries

SADC country	*Country classification*	*Rank (total 154)*	*Dev. stage*	*Score*	*Manufacturing export structure (largest sector)*	*Industrialisation Intensity Index (rank of 154 countries)*
Angola	Least developed	127	Middle-income industrialising	0.005	82.6% resource-based	143
Botswana	Developing economy	84	Middle-income industrialising	0.019	95.7% resource-based	96
Comoros	No data available					
Democratic Republic of Congo	Developing economy	125	Middle-income industrialising	0.006	50.6% resource-based	142
Eswatini	Developing economy	86	Middle-income industrial	0.019	67.8% resource-based	49
Lesotho	No data available					
Madagascar	Least developed	137	Low-income	0.003	48.2% resource-based 48% low-tech	141
Malawi	Least developed	142	Low-income	0.003	61.8% resource-based	103
Mauritius	Emerging industrial	92	Middle-income industrial	0.014	49.7% low-tech	121
Mozambique	Developing economy	135	Low-income	0.004	77.2% resource-based	126
Namibia	Developing economy	103	Middle-income industrialising	0.011	97.5% resource-based	118
Seychelles	No data available					
South Africa	Emerging industrial	49	Middle-income industrial	0.052	46.3% resource-based	71
United Republic Tanzania	Least developed	129	Middle-income industrialising	0.005	54.5% resource-based	129
Zambia	Least developed	126	Low-income	0.006	63.3% resource-based	127
Zimbabwe	Developing economy	116	Middle-income industrialising	0.008	85.5% resource-based	124

Source: UNIDO, 2023.

countries and economies included in the 2020 CIP Index of 154 countries. Firstly, the countries are ranked in terms of their CIP Index, followed by a 'Development Stage' as determined by UNIDO (2020) based on the country in question's industrialisation efforts in terms of manufacturing exports. The CIP Index, (UNIDO, 2020) is representative of the worldwide manufacturing sector recovering from a macro environment that has been shaken by economic (2008) and political insecurity and reduced trust in the benefits of globalisation. The average world score (CIP) is established as 0.062. Across countries, changes in industrial competitiveness are indicative of new leaderships, potentials, and pitfalls as the world sees a renewed role for manufacturing – particularly, manufacturing driven by the innovation and technology race of Industry 4.0 – as key to securing inclusive and sustainable development (UNIDO, 2020).

The column 'Manufacturing export structure' presents an overview of the country's manufacturing sector's export structure based on a technology intensity classification. Exports are classified as resource-based, low-, medium- and high-tech manufacturers, in each instance, only the largest export sector is indicated. The structure is shown as a percentage of the country's accumulated manufacturing exports.

The table confirms the SADC countries in general as middle-income countries with an excessive focus on resource-based manufacturing exports, which will be further explored in Chapters 10 and 11. All SADC countries, except for South Africa (49), Botswana (84), Eswatini (86), and Mauritius (92), are ranked in the bottom third of the 154 countries regarding their CIP Index. Eswatini (49), South Africa (71), and Botswana (96) exhibit an Industrialisation Intensity Index below 100, indicative of a focused approach to industrial development. This table serves as background and basis for further chapters regarding the resource dependency of the study area (refer to Chapters 10 and 11). Accordingly, for purposes of this chapter, SADC is characterised as peripheral, and the peripheral characteristics of the SADC countries are confirmed. South Africa and Mauritius are classified as 'emerging industrial' countries, followed by the 'developed economies' of Botswana, DRC, Eswatini, Mozambique, Namibia, and Zimbabwe. The 'least developed countries' include the remaining five SADC countries, i.e., Angola, Madagascar, Malawi, Tanzania, and Zambia.

The subsequent section will focus on potential mechanisms available to address the question of the established peripherality of the SADC considering the regional resilience approach.

3.5 Addressing peripherality – de-locking mechanisms towards dynamic stability

Leading back to the resilience focus, the concept of regional resilience has been established as having its roots in the economic (and industrial) sectoral composition and growth of a region; in the dynamic interactions along

networks (physical or abstract) within the region; and finally, in the institutions found and their reactions to change. This resonates with the policy approaches identified by Davies and Michie (2011), with the addition of the governance focus. Turok (2014: 753) supports this with the observation that all countries in the world have similar urban agendas, based on the three dimensions of change, i.e., economic progress, spatial integration, and responsive government. The dimensions of change directly correspond to the types of lock-in experienced by regions and could be regarded as an approach to prevent lock-in or stagnation. Lock-in (also refer to Section 3.2.4) and a locality's reaction thereto are pertinent in understanding the resilience of a region and its adaptation and adaptability capabilities. Various types of lock-in are identified, i.e., functional, political, and cognitive, and describe a region which becomes reliant on previous growth paths due to the ossification of institutional outlooks, relationships, and configurations, which inhibits adaptability (refer to Section 3.2.4). Lock-ins are often found to overlap and are self-reinforcing, rendering the region vulnerable to shocks and slow-burn processes. Martin and Sunley (2006) identify various 'de-locking' mechanisms to provide a basis to move from a state of adaptation and adaptability, which includes diversification of the economic structure, arranging technological advances, introducing and entrenching external resources, and generating innovation by economic agents. This suggests that settlements can enhance their adaptability if strategies and policies are in place to prevent lock-in (refer to Section 3.4).

3.5.1 Regional policy as a de-locking mechanism

The need for a policy approach to enhance regional planning was identified by Kuklinski (1970). He determined that the need for regional policy exists firstly as a stimulus to address issues of the socio-economic structure (Carlsson et al., 2014) in lagging/problem regions, and secondly, as an indirect stimulus. This indirect stimulus is focused on the national level of policy and planning to address the integrated sectors making up the national, regional, and local levels. Developing countries are highlighted as more prone to problems because of irregular spatial development and the impact that the geographical area has on enlarging disparities (Johnson et al., 1986; Armstrong & Taylor, 2000). Glasson (1985) and Friedmann and Weaver (1979) established that there are two spatial levels of regional policy, i.e., an inter-regional level focus and an intra-regional focus. Inter-regional policy and planning focus on regional goals in the local region, which is often supported by an infrastructure focus. Intra-regional policy and planning are, in turn, focused on national goals and initiatives, as well as between countries, cutting across various sectoral differences in a holistic approach (Richardson, 1987), often referred to as a horizontal slice between sectoral planning initiatives.

The focus of regional policy has experienced a global shift from exogenous to endogenous (OECD, 2006; Ward & Brown, 2009). Endogenous policy

focus is most often promoted through a bottom-up approach in the peripheral region, whereby the decentralised government is expected to identify and initiate local regional development projects for which funding can be made available by donor countries. The OECD (2006) notes that there is a definite shift from single-sector policies (i.e., rural or agricultural focus) to a multi-sector focus to investments and subsidies under a regional competitiveness drive. This in turn requires more localised initiatives of capacity building and skills development to support said projects. Spatial policies and spatial policy objectives are more explicit in their goals, such as specific growth centres or sectoral development being promoted (Richardson, 1987; European Commission, 1997). Three main groups or **policy fields** and foci are identified by the European Policies Research Centre (Davies & Michie, 2011) as resorting outside the narrow definition of regional policy, referring to (i) the inherent potential for development, (ii) a focus on accessibility and openness, and (iii) the provision of local services. The inherent potential focus is on the natural resources and includes initiatives focused on the human and social capital of the region in question. As highlighted earlier, the peripheral regions are often overly dependent on their natural resources, and this dependence is exploited by a select few in charge of decision-making. The social capital of peripheral regions is often included in this approach to regional policymaking, with a focus on retaining and attracting the younger generations to the region. A second approach to policymaking is largely focused on human interactions and connectivity regarding broadband infrastructure. This policy focus aims to address issues of accessibility and links with other people and firms outside of the region, albeit a capital-intensive policy approach most often focused on improving transport routes and access to broadband networks. The third policy intervention which is often visible within peripheral regions is that of service provision, both in commercial and public services. Similar to the connectivity focus, this type of policy is often impeded by the availability of resources and local funding.

Lall (2011) proposes that regional policy should aim towards reconciliation between unbalanced growth, and inclusive development should be the target of regional policy. He claims that economic integration could provide a solution and that spatial integration should be pursued, rather than a singular policy of spatial targeting. The World Bank (2008) identified several instruments, i.e., institutions, infrastructure, and interventions, to fulfil the goal of spatial integration. The 'institution' focused policies are highlighted as being universal and spatially blind (not locality-bound); this often includes regulations concentrating on social services, international trade, and labour. Naturally, policies related to the infrastructure (railways, communication corridors, roads) focus are place-bound. The World Bank (2018) establishes that the 'interventions' policy instrument will be spatially specific in a targeted manner focused on programmes that promote preferential trade access, fiscal incentives, and trade agreements. The World Bank realistically notes that not all regions deal with the same issues, and therefore additional instruments are identified based on the scale of the regional problem. Table 3.3

Table 3.3 A rule of thumb for calibrating the policy response

Policy priorities for economic integration				
Complexity of challenge	*Place type L (local); N (national); I (international)*	*Institutions Spatially blind*	*Infrastructure Spatially connective*	*Interventions Spatially targeted*
One-dimensional problem	**L** – Areas of incipient urbanisation **N** – Nations with sparse lagging regions **I** – Regions close to world markets	✓		
Two-dimensional challenge	**L** – Areas of intermediate urbanisation **N** – Nations with dense lagging regions **I** – Regions distant from world markets	✓	✓	
Three-dimensional predicament	**L** – Areas of advanced urbanisation that have within-city divisions **N** – Nations with dense lagging areas and domestic divisions **I** – Regions distant from world markets with small economies	✓	✓	✓

Source: World Bank (2008: 202)

stipulates that for a one-dimensional problem, there should be a single policy instrument (in this case spatially blind institutions) to address the problem. However, as soon as a problem becomes a two-dimensional challenge or a three-dimensional predicament, the policy approach and instruments will change accordingly, with the severest case calling for all three policy priorities to be addressed by the various associated instruments.

The peripheral region would typically require a three-pronged approach of institutional, infrastructure, and spatial intervention. The instruments to be utilised for reaching policy goals will naturally differ depending on the spatial scale as illustrated above (Kuklinksi, 1970). He concurs that the goals of short-term and long-term (resilience) economic growth are typically supported through different programmes. Typically, targeted investment in the stronger core will yield quick results, but a longer-term focus on resilience will require a focus on breaking barriers (also refer to Lall, 2011 on spatial integration) on an inter-regional scale. Martin (1979) noted that investment in infrastructure

alone (DPA – direct productive activity) does not significantly impact the long-term productivity and welfare of the local population. Subsequently, he proposed a dual investment focus in support of the local population by means of social overhead capital (SOC) and supportive policy directed at building local entrepreneurship in a 'people development paradigm'. Various other scholars point to the importance of building on the 'institutional collective action' (ICA) approach through formal and cooperation agreements, facilitating the movement of goods, joint infrastructure supply, and strengthening local communities (Andrew, 2009; Feiock & Scholz, 2009). The ICA approach states the focus of participatory regions' local governments to establish regional benefits by operating beyond their limits (political boundaries). This reinforces the work of Krugman establishing the important role that regional governance and regional relations can play in establishing a more attractive and economically competitive region (Feiock, 2007, 2009).

Aiginger et al. (2012), in their discussion on policy options for the development of peripheral regions and countries of Europe, identify several success factors that are crucial for regional development and 'catch-up' of peripheral regions. Firstly, such strategy or policy should build on the inherent potential and strengths of the region and be championed by a committed role-player/government. The practical component of knowledge transfer is envisaged to be guided by developmental agencies and knowledgeable partners. A definite shift towards the secondary (manufacturing) and tertiary (value-added services) should be supported through sectoral policies that demand structural change and are focused on local strengths. The catch-up focus of the periphery should furthermore be strengthened with a commitment to secondary and tertiary education, coupled with employment in industries focused on high-technology manufacturing. This will be enhanced by a pertinent focus on local investment, attracting FDI and increasing regional trade. Lastly, the commitment and support from the national sphere of government for investment funding and a clear national vision are significant in a successful catch-up strategy. Table 3.4 highlights the various policy approaches identified for European peripheral regions as a best-practice example.

Aiginger et al. (2012) uphold that these measures increase economic welfare in most leading countries, could potentially create positive spillovers for peripheral countries in the EU, and could potentially be useful in providing a foundation for peripheral countries in the SADC. The final section of this chapter will synthesise regional policy and how this tool could inform approaches to regional resilience in the SADC countries as peripheral regions in the world.

Detailed discussion and pertinent proposals can be found in Chapter 12.

3.6 Conclusion

The preceding discussion established the SADC as a largely peripheral region in the global context, with South Africa as a semi-peripheral region. The

Table 3.4 Best-practice policy approaches in peripheral regions

Policy approach	*Discussion*
Main driver	• A national strategy based on a pertinent vision supported by all levels of government
National policy and state support	• Particularly important for peripheral regions lacking endogenous resources to counter declining trends by initiating new activities
Support region-wide policies	• Support and monitoring of the higher tier unit of government (i.e., the European Commission) • Better targeting of existing funds • Coordination between funds and policies • Increasing the level of support • Providing fiscal transfers as automatic stabilisers of shocks • Reducing disequilibrium including income distribution • Supporting monetary policy • Improving knowledge transfer • Reducing tax evasion
Support: Spillovers from the centre	• Policies should also consider the interaction between the centre (i.e., the leading countries) and the periphery of the monetary union since the empirical evidence shows that catch-up works best when spillovers from the centre facilitate adjustment in the periphery • Aligning wages with productivity growth • Increasing consumption by reducing income spreads • Going for excellence in energy saving and sustainability
Defining competitive advantages	• Making use of globalisation, location, and ports • Centre of alternative energy • Upgrading tourism
Changing structures	• Reforming education, promoting innovation, and regulation • Improving the employment impact of expenditure and tax • Shift taxation and boost tax compliance • Role of youth in a new reform alliance
Rebuilding the production base	• Boosting productivity is the priority • An industrial policy is needed • Entry and creation of firms • Attracting FDI and embedding it into an industrial strategy

Source: Adapted from Aiginger et al. (2012) and (Carlsson et al., 2014)

SADC is regarded as a region largely dependent on its primary sector and natural resources, with a strong dependence on exogenous impetus to participate in the global economy. This dependency intensifies the region's marginal position and hampers regional resilience. It was established that peripheral regions are more sensitive to economic and other shocks, which in turn heightens their vulnerability to regional lock-in. The concept of resilience established that regions with a positive outlook and approach to adaptability could utilise this openness to innovation in a positive manner through local industrial dynamism. This approach could add immense value in establishing the SADC as a truly resilient region where the crucial juncture between adaptation and adaptability is reached.

This chapter established regional policy for the SADC as a potential de-locking mechanism, focused on a three-pronged approach between infrastructure development, institutional buy-in and support, and spatially targeted interventions. It is upheld that suitable regional policy will assist in breaking barriers on the inter-regional scale and establish the SADC as an inward-focused region, with an openness to exogenous assistance.

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4 Implications of subnational regional development policy for the Southern African Development Community

Eric Yankson

4.1 Introduction

This chapter assesses subnational regional development policy with the aim of evaluating its ramifications for the wider Southern African Development Community (SADC). Regional development policy may be defined as strategic options adopted by regions to attain desired goals such as improving the socio-economic well-being of their residents. These regions are geographical polities created through the political process due to their shared attributes such as levels of development or physical features. Subnational regions entail administrative regions within the ambit of the nation-state normally established by the central government through a legislative or policy framework. Moreover, supranational regions are those created by collaborative networks of nation-states for the purpose of attending to development matters which straddle national territorial boundaries. While much research exists on subnational regionalism, the concept still appears to be relatively emergent in an African context. Equally important is the dearth of existing literature on the implications of subnational regional policy for what happens at the supranational level. Thus, the inter-linkages between the two concepts could benefit from more theoretical and empirical insights. Within the Southern African context, there appears to be little (if any) existing research which broaches this matter. The chapter thus seeks to fill this gap in the prevailing literature.

Specifically, the chapter is based on a case study of Namibia. The choice of Namibia is informed by the relative dearth of research on this country given that the prevailing discourse on regionalism in Africa appears to be dominated by countries such as South Africa. The chapter thus seeks to reveal important context-specific insights that may be missing in prevailing studies. Specific objectives include: assessing the evolution of subnational regionalism and the underlying factors responsible for this; evaluating the defining elements of subnational regional development policy; and assessing the ramifications of subnational regional policy for supranational regionalism. The qualitative analysis relies on document and discourse analyses, as well as interviews to make its observations. Specifically, policy documents on regionalism as well as journal articles are analysed. Moreover, a total of five interviews were conducted with respondents from regional councils and the Ministry of Urban

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and Rural Development with the aim of obtaining insightful perspectives on regionalism in Namibia. The interviewees were selected through a purposive sampling approach due to their level of knowledge on the evolution of regional planning and development policy in Namibia. The chapter discussion starts by reviewing the literature on subnational and supranational regionalism. It broaches regionalism in SADC to provide a better contextual framing for the discussion before delving in on the situation in Namibia. It then concludes by assessing the implications of the Namibia observations for the wider SADC region, as well as the existing literature.

4.2 Subnational and supranational regionalism

The pursuit of subnational regionalism in the era of globalisation may be explained in part by the context-specific nature of inter-jurisdictional challenges which create the need for subnational actors such as local authorities to pool efforts towards addressing them. Thus, it reifies inter-local or inter-governmental collaboration characterised by the downward rescaling of political governance from the national government (Yankson, 2021: 1–3; Yankson, 2023: 15–20). In a sense, subnational regionalism may thus be regarded as an element of decentralisation which seeks to transfer powers from the national government to lower levels in the political decision-making spectrum. The result of this decentralisation may however be an increase in regional disparities if it is characterised by significant devolution of power. This could occur since resource-rich regions can leverage their newly acquired powers to utilise their endowments for the welfare of their residents while resource-poor areas may lack this privilege (Talitha et al., 2020: 704–705). Similarly, decentralisation could lead to the proliferation of new autonomous regions, resulting in increased political fragmentation. The above-noted developments may however be curtailed with broader governmental reforms which seek to minimise the ramifications of decentralisation for regional disparities and fragmentation (Talitha et al., 2020: 704–705).

In a relatively centralised political system, subnational regionalism may be a state-led spatial intervention to promote development by connecting urban nodes. This can occur within the ambit of capitalist restructuring in the global political economy (Summers, 2016: 1637–1639). The notion of regional connectivity within the lens of globalisation thus presents an alternative perspective from the dominant discourse which emphasises the socially ensconced, spatially configured and contextually localised nature of regional development (Crescenzi & Iammarino, 2017: 97).

Subnational governments are influenced by the power dynamics associated with both vertical and horizontal relationships. Where these polities receive relatively less support from the national government, they may be compelled to resort to more interdependence with or reliance on other local actors. The result may be a compromised or weakened position in their interactions with these players. However, where such vertical support exists,

the interdependence may occur within the ambit of these scalar tiers. The result is a greater bargaining position in deliberations with other subnational actors (Eckersley, 2017: 84–87). Moreover, subnational regionalism may be a strategy for a more open form of governance premised on transparency and political accountability which simultaneously emphasises the roles of supranational actors in shaping policy-making (Chatwin et al., 2019: 451).

In the recent past, the supranational region has emerged as an alternative conception to the hitherto dominant discourse on subnational regionalism. This occurs in part due to the transcendence of national borders by the ebbs or flows associated with globalisation. It has therefore become apparent that regions can no longer be understood only within the limited confines of the nation-state (Uwazuruike & Salter, 2017: 95–100). The notion of Schmittian Grossraum theory thus encapsulates the nuances of supranational regionalism. It embodies a political ideology around which nation-states coalesce their efforts to attain defined goals. Notwithstanding its transnational character, there exists a spatial domain within which these inter-governmental efforts are conducted. Moreover, a particular nation may assume the role of the leading power in matters such as security (Uwazuruike & Salter, 2017: 95–100). Whereas supranational regions were primarily driven by political considerations such as security challenges during the era of the Cold War, economic factors have increasingly emerged as primary reasons for the pursuit of these cross-border endeavours (Zimmerbauer, 2018: 911–912).

Conceptually, the pursuit of supranational regionalism may be understood within the lenses of power dynamics underpinned by benevolent, coercive and absent leadership. Benevolent leadership occurs when the dominant player in a regional polity assumes the primary responsibility for promoting inter-jurisdictional activities even if this portends that others will be free riders in the process. The motivation lies in the availability of largesse for this purpose as well as the perceived benefits even in the absence of concrete contributions from others (Hulse, 2016: 10). However, coercive leadership occurs when a dominant power whips others in line towards making monetary and other contributions for regional development. The rationale is to maximise benefits to the dominant player even at the expense of others. Moreover, absent leadership implies relative inaction by a powerful actor in steering regional endeavours (Hulse, 2016: 10–11).

Several factors may drive regional power behaviour. To begin with, power concerns imply that some nations seek to increase their sphere of influence in regional endeavours with the goal of strengthening their powers in the global political system. Moreover, countries may be driven by local concerns to pursue functional efficiency goals in order to advance their self-interests. The rationale here is to pool efforts with other countries to embark on initiatives which may yield direct benefits for citizens (Hulse, 2016: 12–13). In terms of legitimacy and signalling concerns, regionalism comes across as the right thing for nations to do. This enhances their economic and political credibility. Also, neopatrimonial interests portend that informal networks may

sometimes emerge to undermine state power, implying that political actors make decisions which largely benefit private actors who actually wield influence (Hulse, 2016: 13–14).

4.3 Regionalism in SADC

Having reviewed some existing literature, the chapter now unpacks regionalism in SADC to provide a better contextual framing for the subsequent discussion. The write-up argues that an analytical framework for evaluating development policy in a region of the Global South such as SADC may be distilled based on four defining themes: temporal provenance, conceptual paradigms, policy drivers and policy options (Table 4.1). Temporal provenance refers to historical origins and is important for comprehending the evolution of regional policy. Moreover, conceptual paradigms explain the theoretical or ideological orientations which define this endeavour. Policy drivers refer to the factors which create the need for regional development policy. Also, policy options entail the strategic interventions adopted to deal with regional development challenges.

Following the end of colonial rule in many African countries, regional integration became a defining paradigm for the promotion of socio-economic development. The goal was to deal with challenges such as small economic bases, poor infrastructure, underdevelopment and socio-spatial inequality characteristic of many newly independent countries. The overarching approach occurred through the establishment of the then Organisation of

Table 4.1 Regional policy in SADC

Themes	*Elements*
Temporal provenance	• Colonial and apartheid origins • End of Cold War • Neoliberal globalisation
Conceptual paradigms	• Theory of regional integration • Power play: Schmittian Grossraum theory, coercive leadership, securitisation of borders, favouring formal actors
Policy drivers	• Small economic bases • Poor infrastructure • Underdevelopment • Socio-spatial inequality
Policy options	• Regional economic growth • Cross-national development corridors • Vision 2050 • Regional indicative strategic development plan • Regional infrastructure development master plan

Source: Author's construct based on document and discourse analyses, literature review and interviews

African Unity in 1963. This was subsequently transformed into the African Union in 2002. Besides the overall approach, continental integration was articulated through the establishment of regional economic communities (Mlambo, 2020: 23–25), which is elaborated on in Chapter 2. The approach by SADC may thus be understood within the lens of the theory of regional integration by Balassa (1961), which identified four stages. These included the following: establishment of a free trade area; creation of a customs union; emergence of a common market; and formation of an economic and monetary union (Moyo, 2020: 2).

Since its inception, regionalism in SADC has however been epitomised by power dynamics, with South Africa playing a leading role. The situation may be explained by South Africa's relative economic and political dominance in the region in relation to other countries. For instance, its leadership role within the Southern African Customs Union (SACU) is largely perceived to be motivated by self-interest with the goal of ensuring a larger market for its goods (Hulse, 2016: 22–23). Moreover, upon joining the SADC Free Trade Area following the end of apartheid in 1994, South Africa spearheaded efforts to ensure that countries which belonged under SADC could not simultaneously be members of the Common Market for East and Southern Africa (COMESA), an initiative largely steered by Zimbabwe (Hulse, 2016: 22–23). South Africa's political engagements within SADC may therefore be perceived in terms of Schmittian Grossraum theory in which a particular country assumes a preponderant role in these cross-national collaborative endeavours. Moreover, its leadership role within SADC may be understood within the theoretical lens of coercive leadership which seeks to maximise benefits for the dominant player.

The power play in SADC regionalism is also evident in the colonial heritage which has led to the securitisation of borders by countries such as South Africa, Botswana and Zimbabwe. Moreover, the adoption of policies which favour more formal actors in cross-border mobility is evident. The developments affect informal non-state actors such as traders who have established transnational networks but are prevented from easily crossing borders by these regulations. Also, some border residents with similar cultural, ethnic and familial backgrounds have been separated from each other by these regulations (Moyo, 2020: 9–10).

Besides the power dynamics, regional development policy in SADC is underpinned by the promotion of economic growth rather than regional resilience (refer to Chapter 3). As a result, resilience is largely articulated within the narrow ecological lens of sustainable development (Pretorius et al., 2021: 1). For instance, there appears to be a focus on climate change mitigation as per the SADC Climate Change Strategy and Action Plan (Pretorius et al., 2022: 449). The promotion of water resources governance to bridge the policy cleavages regarding the water-energy nexus to ensure integrated development is an exemplar of the extant approach (Mabhaudhi et al., 2016: 1). Due to the focus on economic growth at the expense of resilience, SADC

is easily exposed to the vagaries of the global political economy. This is exacerbated by immanent vulnerabilities such as the reliance on foreign direct investment, unfair terms of international trade and relatively low levels of industrial output. A proactive regional development policy must therefore simultaneously promote industrialisation and economic resilience (Pretorius et al., 2021: 1).

The promotion of regional economic resilience occurs through trade liberalisation and spatial linkages which promote regional integration (refer to Chapter 11). Within the context of SADC however, this integration has been limited by the existence of both tariff and non-tariff barriers to trade. These factors negatively impact intra-regional economic exchanges and restrict economic recovery in the aftermath of disruptive events such as a global financial crisis (Pretorius et al., 2017: 217). Towards attaining regional integration in SADC to ensure economic resilience, it is therefore important to remove barriers to trade, enhance the capacity of regional institutions and establish spatial development corridors (Pretorius et al., 2017: 217).

Moreover, the establishment or functioning of cross-national development corridors within the SADC region is configured by the compatibility of regional development policies in different national contexts (refer to Chapter 6). For instance, the operationalisation of the Walvis Bay-Ndola-Lubumbashi Development Corridor has been limited by the policy chasms between Namibia and Zambia (Zajontz, 2022: 6–13). Namibia's regional gateway approach emphasises transport and logistics for trade, industrialisation and socio-economic advancement. However, Zambia's subnational political dynamics have relatively less prioritised road infrastructure connectivity, and this portends negatively for the movement of freight along the corridor (Zajontz, 2022: 6–13). Overall, there appears to be a disconnect between subnational regional planning in many SADC countries vis-à-vis the development strategies adopted by national governments (Rambanapasi & Darkoh, 1997/98: 1). A number of other policy options have been pursued by SADC over the years. These include the regional indicative strategic development plan and regional infrastructure development master plan (SADC, 2020 & 2012; refer to Chapter 2).

4.4 Case study: Namibia

4.4.1 Evolution of subnational regionalism in Namibia

Having considered regionalism in SADC, the chapter now unpacks the evolution of subnational regional development policy in the case study country (i.e., Namibia) as well as the underlying factors responsible for this. Prior to independence in 1990, subnational government in Namibia was primarily underpinned by the dynamics of race and class, resulting in the creation of independent homelands led by tribal leaders and headmen. This was premised on the Bantustan ideology, which emanated from the German colonial period (1884–1915) and was institutionalised during the apartheid

dispensation (Table 4.2; Hopwood, 2005: 4; Mcgirr, 2021: 8). Specifically, it was enshrined in public policy following the enactment of the Apartheid Act (1948) and the Group Areas Act (1950 and 1986). Based on the recommendations of the Odendaal Commission of 1962, the Self-Government for Native Nations in South West Africa Act (1968) was promulgated. This divided the country into independent homelands based on racial and tribal considerations. In 1980, the divisions were transformed into 11 ethnic administrations, with each one having a legislative assembly (Hopwood, 2005: 4; Mcgirr, 2021: 8).

The Bantustan form of decentralisation was underpinned by the social marginalisation of the indigenous population and spatial polarisation. As a result, the Constituent Assembly formed to spearhead deliberations on the form of government to be adopted at independence recognised the need for a transmogrification of the political system to deemphasise divisions based on race and ethnicity (Mcgirr, 2021: 9–10). Subsequently, the proposal for the establishment of regional councils and local authorities was done on the condition that these new units of government would solely be premised on geographical considerations. Specifically, factors such as geographical features, levels of economic development and transport linkages would form the bases for the establishment of regions (Mcgirr, 2021: 9–10).

The Boundaries Delimitation and Demarcation Commission which produced the first recommendations on regional government in post-independence Namibia articulated the establishment of 13 administrative regions and 96 constituencies (Republic of Namibia, 2002: 60–63: Mcgirr, 2021: 10–11).

Table 4.2 Regionalism in Namibia

Themes	*Elements*
Temporal provenance	• Colonial and apartheid origins • Bantustan ideology: establishment of ethnic-based homelands
Conceptual paradigms	• National unity: transformation of the political system • Geographical factors • Equitable regional development
Policy drivers	• Social marginalisation • Spatial polarisation
Policy options	• Regional Councils Act (Act number 22 of 1992) • Decentralisation Policy of 1997 • Local Authorities Act (Act number 23 of 2000) • Decentralisation Enabling Act (Number 33 of 2000) • Regional planning and development policy 1997 • Vision 2030 • National development plans • Harambee Prosperity Plan I and II

Source: Author's construct based on document and discourse analyses, literature review and interviews

From a legislative perspective, the promotion of regional governance was formalised through the enactment of the Regional Councils Act (Act number 22 of 1992). Other cognate legislations which enabled the actualisation of this included the following: Decentralisation Policy of 1997, Local Authorities Act (Act number 23 of 2000) and Decentralisation Enabling Act (Number 33 of 2000). The various legislations envisaged the transfer of powers from the central government to subnational units of government (Republic of Namibia, 1992b: 6–9; Republic of Namibia: Ministry of Regional, Local Government and Housing, 1997: 13–22; Republic of Namibia, 1992a: 13–19; Republic of Namibia, 2000: 3–4).

The Regional Councils Act constitutes the legal framework for the establishment of regional councils in all of Namibia's administrative regions. These councils have responsibility for planning development matters in all areas within their jurisdictions, with the exception of municipalities, towns and villages which are managed by municipal, town and village councils. They oversee the planning of settlement areas and engage in socio-economic development planning. They also assist local authorities within their jurisdictions and provide advisory services on regional development matters to the President and Minister of Urban and Rural Development (Tötemeyer, 2010: 131; Mcgirr, 2021: 13). Regional councils have the mandate to create development committees to serve as a bridge between them and local communities. The committees advise the councils on how best to attend to community development needs in alignment with their mandates (Mcgirr, 2021: 13).

Namibia's subnational regional development policies also derive their mandates from broader national-level policies such as Vision 2030, the National Development Plans (NDPs) and the Harambee Prosperity Plans (HPPs). Vision 2030 is the overarching and long-term policy framework for all development strategies in Namibia. It seeks to create a wealthy and industrialised nation which enjoys peace and good governance, and is developed by her human resources (Republic of Namibia: Office of the President, 2004). Moreover, the NDPs are five-year development plans for attaining short- and medium-term targets. For instance, NDP5 prioritises economic progression, social transformation, environmental sustainability and good governance. These are aimed at ensuring an inclusive, equitable and sustainable approach to the development process (National Planning Commission, 2017). Similarly, the HPPs I and II are targeted interventions to ensure accelerated development, as well as promote good governance, economic advancement, social progression, quality infrastructure and excellent international relations (Republic of Namibia: The Presidency, 2021).

Overall, regional planning in Namibia emerged in response to pervasive development inequities across regions partly emanating from the colonial and apartheid eras. There was therefore the need to ensure that benefits were distributed in a way which reversed the existing status quo to promote equity (National Planning Commission of Namibia, 1997: 1–2). The objectives of Namibia's regional planning and development policy are thus

to: promote participatory planning with the aim of incorporating citizen perspectives in the development process; ensure the effective utilisation of available resources for regional development; reduce development disparities between and within regions, as well as between urban and rural areas; promote regional specialisation to fully take advantage of available resource endowments; ensure economic diversification to create new socio-economic opportunities; enhance inter-regional trade and ensure favourable terms of trade between urban and rural areas; increase agricultural productivity to facilitate the attainment of food self-sufficiency; improve employment generation, income distribution and living standards; enhance institutional capacity by strengthening regional planning units across the country (National Planning Commission of Namibia, 1997: 3–4).

While decentralised decision-making is an immanent goal of Namibia's approach to regional development, the regional policy-making process is however a hybrid approach comprising both decentralised and centralised strategies. In principle, various legislations such as the Regional Councils Act and the decentralisation policy aim to transfer powers from the central government to regional councils. Moreover, the element of participatory planning is enshrined in the policy on regionalism. These dynamics notwithstanding, political centralisation is still highly prevalent in Namibia. The implication is the relatively limited powers of regional councils coupled with reliance on the national government for their policy direction and resource allocation.

4.4.2 Subnational regional development policy in Namibia: Defining elements

In this section, the chapter dissects the defining elements associated with subnational regional development policy. Based on observations from the Namibia case study, it broadly categorises subnational regional interventions into scalar, spatial and sectoral policies. This is aimed at ensuring a holistic analytical perspective comprising the various aspects of subnational regional well-being. Scalar policies are those which seek to ensure better integration and coordination at different levels of government to promote regional development. Moreover, spatial interventions seek to minimise place-based chasms to promote development equity. Also, sectoral policies target specific sectors to improve socio-economic well-being. These broad-based policy categories are further subdivided into specific elements (Table 4.3).

Thus, the chapter specifically conceptualises subnational regional development policy in terms of elements such as: integrated regional land use planning; regional cooperation and networks; political rescaling; multilevel governance; rural-urban linkages; global-local synergies; inter- and intra-regional planning approaches; agricultural development and natural resource management; industrialisation; and promotion of the service sector. Integrated regional land use planning is important for understanding

Table 4.3 Regional policies in Namibia

Broad policy categories	*Specific elements*
Scalar policies	• Integrated regional land use planning • Regional cooperation and networks • Political rescaling • Multilevel governance
Spatial policies	• Rural-urban linkages • Global-local synergies • Inter- and intra-regional planning approaches
Sectoral policies	• Agricultural development and natural resource management • Industrialisation • Promotion of service sector

Source: Author's construct based on document and discourse analyses, literature review and interviews

the effectiveness of the planning process at different scales in attending to land use matters. Regional cooperation and networks entail cross-border collaborative endeavours by localities to pool efforts towards addressing common challenges. Political rescaling embodies the devolution of power by the central government to subnational units to enhance participatory decision-making. Multilevel governance encompasses how the different levels of government coordinate their efforts to promote regional development. Urban-rural linkages reveal how regional economies are inherently shaped by the interactions between urban and rural areas. Similarly, global-local synergies embody the ramifications of global factors in shaping local development dynamics across regions. Moreover, intra- and inter-regional planning help to assess planning approaches both within and between regions. Also, given the abundance of agrarian and natural resources in Namibia, the development of agriculture and the resource base is important for the promotion of regional development. Industrialisation also helps to understand the role of the manufacturing sector and small and medium-scale enterprises in regional economic transformation. Additionally, the promotion of the service sector is an important strategy for ensuring economic diversification. These concepts will now be unpacked in more detail.

4.4.2.1 Scalar policies

In terms of scalar policies, land use planning entails the allocation of land uses in a way which promotes compatibility and ensures sustainable development. The concept of integrated regional land use planning in Namibia thus comprises land use allocation at a regional scale with the aim of ensuring ecological, social and economic sustainability in the development process. It is premised on a comprehensive approach to planning which integrates all the

governmental tiers to ensure a coordinated development strategy (Ministry of Lands and Resettlement, 2015b: 5–9). Moreover, this concept involves participatory planning and thus pools the efforts of various stakeholders including local authorities, government ministries, departments and agencies, as well as local communities and ordinary citizens. Immanent in this approach is the utilisation of geographic information systems (GIS) tools for integrated planning at the regional level. Moreover, the concept seeks to plan for the needs of various sectors such as tourism, agriculture, manufacturing and other important elements of the regional economy (Ministry of Lands and Resettlement, 2015b: 5–9).

Besides integrated regional land use planning, regional cooperation and networks in Namibia are evident in terms of collaborative policy endeavours between various local authorities aimed at sharing experiences and learning best practices. The exchanges mostly occur between local authorities in the country (such as periodic engagements between the City of Windhoek and other municipal or town councils). Collaborative endeavours also occur between Namibian local authorities and their counterparts in other countries such as South Africa. Moreover, regional councils pool efforts in various ways to ensure the effectiveness of government policies across the country. Regional cooperation in Namibia sometimes occurs through memoranda of understanding among the parties involved. Moreover, the existence of institutional platforms such as the Association of Regional Councils in Namibia and the Association of Local Authorities in Namibia serve as mechanisms for the promotion of collaborative endeavours.

Also, political rescaling in Namibia may be understood in terms of the country's decentralisation policy which seeks to transfer powers from the national government to subnational units such as regions, cities and towns. Specifically, the policy seeks to promote participatory decision-making to enhance democracy. Moreover, it aims to empower regional councils and local authorities to provide a better quality of service delivery to their residents. This forms part of the broader goal of promoting sustainable development (Republic of Namibia: Ministry of Urban and Rural Development, 2016: 3–4). Several functions were devolved to the regional councils as part of Namibia's regional planning and development policy. These include the following: community-based development, management of settlement areas, administration of communal lands, pre-primary and primary education, primary health care, forestry management, conservation, rural water management, physical planning, and economic development, as well as emergency management (National Planning Commission of Namibia, 1997: 9). Notwithstanding their lofty goals however, as noted earlier, decentralisation has been characterised by limited transfer of powers from the central government to regional and local authorities. This is partly due to the path dependency of centralisation inherited from the colonial and apartheid eras. Moreover, the limited financial resources available to subunits of government imply that they largely rely on the largesse of the central government to execute their programmes (Larsen, 2003: 10–15).

In terms of multilevel governance, regional councils in Namibia may be regarded as a development bridge between the national government and local authorities. This is because they serve as the intermediary in the scalar chain between these two levels. The multilevel governance policy space serves as a forum for regional councils to mobilise resources from the national government and international development partners. Simultaneously, it demonstrates the integrated nature of the governance process which requires different spatial scales to address various challenges. This may be partly explained by Namibia's unitary governmental system, which is hierarchical and conceptualises political decision-making at different levels. Multilevel governance is also evident in terms of the various layers of authority that characterise regional councils and other units of government.

4.4.2.2 Spatial policies

Besides scalar policies, spatial interventions are also evident. To begin with, notwithstanding the rapid pace of urbanisation in Namibia, many parts of the country remain rural. This creates the need for the prioritisation of urban-rural linkages as the basis for regional development. Moreover, the proliferation of informal settlements at the urban periphery arises due to high rates of rural-urban migration. These settlements also blur the binaries between urban and rural areas, resulting in the need for a proactive approach to planning which comprehensively addresses the development challenges posed by these inter-linkages. Due to the inherent linkages between urban and rural areas, various policies have sought to equalise development outcomes in these places. For instance, Namibia's Urban and Regional Planning Act of 2018 spells out guidelines for the preparation of a national spatial development framework, as well as regional and urban structure plans (Republic of Namibia, 2018). Moreover, the rural development policy seeks to create socio-economic and environmental progression in rural areas through better coordination, participatory planning, infrastructure provision, industrial development, economic diversification, improved sanitation and ecological sustainability (Republic of Namibia: Ministry of Regional and Local Government, Housing and Rural Development, 272012: 11–22).

Regional planning also serves as a confluence of global and local synergies in the development process (Yankson, 2023: 1–5; Yankson, 2015: 1–4). For instance, the promotion of foreign direct investment in Namibia's regions is an exemplar of how these dynamics interact with each other. Regional councils therefore play a facilitating role together with the national government and local authorities in shaping this endeavour. Global-local linkages in subnational regional policy may be understood in terms of the HPPs which prioritise international relations and cooperation. Moreover, Namibia's industrial policy underscores the salience of industrialisation as a tool for supranational regionalism within the ambit of SADC.

Intra-regional planning entails resource allocation within the boundaries of a region to stimulate development. Similarly, it involves channelling funds to various sectors such as housing, transport and economic development, among others. Depending on a region's priorities, some geographical areas or sectors may receive more funding than others. Also, inter-regional planning occurs when resources are allocated between regions. This may form part of central government objectives of bridging development disparities. Thus, it may prioritise the attraction of jobs and investments to relatively poor regions (National Planning Commission of Namibia, 1997: 14–15).

4.4.2.3 Sectoral policies

In terms of sectoral policies, the promotion of agriculture in Namibia's regions is premised on the goal of ensuring self-sufficiency in food production and supplying the needs of the nation's agro-based industries. Specific strategies for attaining these include the supply of agricultural inputs, establishment of irrigation facilities and provision of physical infrastructure. Moreover, the promotion of subsistence farming has the tendency to create jobs for the many individuals around the country who rely on this for their livelihoods (National Planning Commission of Namibia, 1997: 10–11). Also, the degradation of Namibia's agricultural lands, forests and other natural resources is a major issue of concern. Thus, regional councils have a responsibility to implement interventions aimed at preserving these resources (National Planning Commission of Namibia, 1997: 12–13).

Industrialisation is also pivotal for wealth creation in subnational regions. This partly entails enhancing the capacity of the manufacturing sector to boost regional economic competitiveness. However, due to Namibia's small market and the labour-intensive nature of its small-scale enterprises, the promotion of small-scale industries serves a particularly important role in reducing unemployment within the country's regions. Coupled with this is the fact that many of these enterprises belong in the informal sector which still provides livelihoods for a significant portion of the population. The promotion of small-scale enterprises entails the utilisation of both the natural and human resources available within the regions themselves. This serves as a strategy for reducing imports, utilising available technologies and satisfying regional demand for goods or services (National Planning Commission of Namibia, 1997: 11). The promotion of small-scale industrialisation at the regional level is anchored in Namibia's industrial policy which also prioritises this sector as a tool for employment generation and economic development. Part of the strategy for attaining this entails capacity building and skills training to enhance human capital development (Republic of Namibia: Ministry of Trade and Industry, 2012: 8–10).

Besides industrialisation, the promotion of the service sector is a major strategic policy intervention in Namibia's regions. This is particularly evident in the tourism sector given the abundance of conservancies, deserts,

forests, wildlife and other natural endowments which attract visitors to various regions of the country. In the year 2012 for instance, tourism contributed 3% of Namibia's gross domestic product, and this was expected to increase steadily over the years. The Kavango East integrated regional land use plan, which recognises the potential of tourism to the socio-economic well-being of the region, is an exemplar of how this sector is prioritised by many regions across the country.

4.5 Implications of subnational regionalism for SADC

Having assessed the defining elements of subnational regional development policy, the chapter now evaluates the implications of the concept for SADC (Table 4.4). Overall, several ramifications may be identified. Arguably, the

Table 4.4 Implications of subnational regional policy for SADC

Subnational regional policy elements	*Implications for SADC*
Integrated regional land use planning	• Promotion of regional integration
Regional cooperation and networks	• Subnational strategies as the building blocks for national-level collaborative networks under the ambit of SADC • Blurring of lines between subnational and supranational regionalism
Political rescaling	• Participatory planning in subnational and supranational regionalism • Supranational regionalism as a new form of centralisation
Multilevel governance	• Attending to development matters at various spatial scales
Urban-rural linkages	• Subnational regionalism as the basis for overall development of SADC
Global-local synergies	• Globalisation and interconnectedness of spatial contexts • Schmittian Grossraum theory • Functional efficiency and legitimation concerns
Intra- and inter-regional planning	• Reduction of spatial disparities in SADC
Agricultural development and natural resource management	• Enhancing food security in SADC • Improved tourism potential of SADC region
Industrialisation	• Promotion of regional economic resilience • Lynchpin of regional economic competitiveness
Promotion of service sector	• Cross-national collaboration

Source: Author's construct based on document and discourse analyses, literature review and interviews

emergence of a subnational policy such as integrated regional land use planning partly accounts for the emphasis on the promotion of regional integration by SADC. This is because the SADC interventions are aimed at addressing macro-level regional development gaps not effectively attended to by the subnational strategies. This is due to resource constraints as well as limited powers possessed by lower levels of government. The implication is that national-level governments in SADC pool efforts in various ways to make up for these shortfalls. Given that central governments have more resources and political leverage, they stand a better chance of being able to attain regional development goals. With specific reference to land use planning, SADC interventions on land-related sectors such as transport and water aim to pool national efforts for more effective cross-border policies.

In terms of regional cooperation and networks, subnational strategies may be regarded as the building blocks for national-level collaborative networks under the ambit of SADC. This is evident in the fact that these subnational efforts sometimes straddle national borders, demonstrating the potential for more pronounced outcomes if powerful actors such as national governments are involved. Thus, subnational regionalism constitutes a blurring of the lines with supranational regionalism. For instance, some of the actors involved in supranational regional efforts emanate from the subnational level. The cross-national partnerships between regional councils or local authorities across various SADC countries such as Namibia and South Africa are an exemplar of this configuration. These collaborative platforms which occur in ways such as memoranda of understanding and exchange of visits help to promote the sharing of development exchanges and the building of institutional capacities.

With respect to political rescaling, the participatory nature of subnational regionalism underscores the need for this approach to be enshrined in supranational endeavours as well. The implication is that governmental actors must undertake discussions with the aim of advancing the interests of ordinary citizens. Moreover, wherever applicable, representations from citizen groups are pivotal in these inter-governmental discussions. Simultaneously, however, while subnational regionalism may be regarded as a form of decentralisation in the global era, supranational regionalism in a sense constitutes a new form of centralisation of power. Within the lens of SADC, centralisation occurs due to a greater role for national governments in making several policy choices which impact the lives of ordinary citizens. Moreover, this is evident in terms of the strong influence wielded by South Africa within the regional body. For instance, as per the observations of Hulse (2016), South Africa arguably exercises coercive leadership within the SADC Free Trade Area to advance its economic interests.

In terms of implications for SADC with respect to multilevel governance, the relationships between subnational and supranational regionalism may also be understood in terms of attending to development matters at various spatial scales. Thus, subnational regionalism occurs due to the development

disparities wrought by factors such as urbanisation, rural underdevelopment and historical inequities emanating from the apartheid era. On the other hand, supranational regionalism is created by differences in development among various countries such as South Africa, Namibia, Angola and Mozambique, which creates the need to address relevant issues at a much larger cross-national scale.

As regards urban-rural linkages, subnational regionalism constitutes the basis for the overall development of SADC. Admittedly, it is much easier to conceptualise SADC at the bigger scale which involves collaborative endeavours by various national governments. This notwithstanding, the overall development of the region may also be regarded as an aggregation of efforts by various subnational actors in all the countries. Specifically, the development of individual subnational regions through better urban-rural linkages goes a long way to minimise disparities across the wider SADC region.

With respect to global-local linkages, the notion of globalisation may also explain the dynamics of regionalism within and outside the ambit of the nation-state in SADC. At both the sub and supranational levels, globalisation reveals the interconnectedness of development needs in diverse spatial contexts. This implies that collaboration among interested actors serves as the foundation for minimising any negative economic ramifications associated with these interactions. Within the lens of Schmittian Grossraum theory, however, supranational regionalism represents a move away from the statist nature of subnational regions to embody a more transnational character.

Due to its relatively lower level of power influence in the global political economy, the pursuit of regionalism by a nation like Namibia appears to be primarily driven by functional efficiency concerns. At the subnational scale, this serves as a strategy for attending to local development concerns. The motivation carries through to the supranational level where such cross-national collaborative endeavours are believed to generate highly localised development benefits in the form of enhanced trade, tourism, foreign direct investment and capital inflows. Besides the primary functional efficiency motivation, legitimation concerns are also important. This is due to Namibia's aim of becoming a reliable partner in international relations. Regional collaborative efforts thus portend well for its increased global visibility.

As regards intra- and inter-regional planning, subnational regionalism reduces spatial inequalities within and between regions. This occurs due to targeted interventions aimed at equalising regional development outcomes. This conception from the subnational context is replicated at the wider SADC level through strategic interventions which seek to minimise spatial disparities in Southern Africa. Thus, intra- and inter-regional planning serves as a building block for broader cross-national border engagements.

As regards agricultural development and natural resource management, subnational regional interventions enhance food security in SADC. This is evident for instance in the reliance by South Africa on other countries in the region for agricultural products which it does not produce itself in sufficient

quantities. Moreover, a nation such as Namibia depends on South Africa for most of its food imports. Similarly, the abundance of natural resources such as parks and conservancies in regions within individual countries has the cumulative effect of enhancing the tourism potential of the wider SADC region.

Moreover, subnational regional development policy may be regarded as a micro-level strategy for attaining economic resilience in SADC. This occurs because subnational regions serve as building blocks for the promotion of industrialisation which can help to reduce the reliance of SADC on imports. Similarly, the promotion of local investments within these micro-geographies serves to reduce the vulnerability of the region to the economic vagaries and power dynamics associated with foreign direct investment. Subnational regionalism may therefore be regarded as a lynchpin for the promotion of supranational regional economic competitiveness in the global political economy.

As regards the service sector, the subnational focus on tourism has evolved into cross-national border interventions within SADC to maximise the growth of this sector. This is due to the transnational nature of many of the resources which underpin tourism. For instance, the Kavango Zambezi Transfrontier Conservation Area Treaty was signed in 2011 by the ministers of tourism, natural resources, environment and wildlife for the five countries that make up the Kavango Zambezi Basin (Republic of Namibia: Ministry of Lands and Resettlement, 2015a: 12). These comprise Namibia, Botswana, Zambia, Zimbabwe and Angola. The goal of the treaty is to sustainably manage the resources of the basin, which comprises some of the most renowned ecological and tourism resources in the world. These include the Okavango Delta which is the largest Ramsar site globally. Articles 4(1) and 8(1) of the memorandum of understanding spell out the obligations of each member state towards the effective conservation of the basin (Republic of Namibia: Ministry of Lands and Resettlement, 2015a: 12).

4.6 Conclusion

This chapter establishes dialectical relationships between subnational and supranational regionalism. It observes how these different scalar approaches reinforce or complement each other while synchronously representing alternative conceptualisations to the attainment of regional development goals. At the subnational scale, regionalism is a scalar bridge between the development efforts of the central government and local authorities. Moreover, it serves as a platform for addressing the development disparities associated with urban-rural linkages and dichotomies. Subnational regionalism also constitutes a collaborative platform for pooling the efforts of local authorities, communities and other actors towards promoting development. At the supranational level, national governments are motivated to cooperate with the aim of leveraging regional economic competitiveness in the global political economy. For

instance, SADC is one of the most prosperous supranational regions in Africa due to the competitive edge created by the economic synergies of its member states. This is evident in terms of trade, industrial production, transport linkages and foreign direct investment.

The chapter also evinces that both subnational and supranational regionalism may be undergirded by the need to address spatial development inequities. At the subnational scale in a SADC context, the colonial and apartheid legacies may be preponderant factors responsible for the situation. Moreover, at the supranational level, differences in national resource endowments coupled with varying levels of economic and political clout could account for the situation. The need therefore arises to pool efforts of relevant actors to mitigate the existing situation.

Ultimately, subnational regional sector-based policies may be regarded as the simulacrum of broad-based interventions within the SADC framework. The lessons learnt from these subnational strategic interventions define the overarching SADC policies. Moreover, the inter-jurisdictional nature of resource management in sectors such as tourism creates the need for cross-national collaboration to develop more effective interventions. It is therefore evident that regionalism within and outside the boundaries of the nation-state are inherently interlinked with each other.

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Part 2

Structural perspectives

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5 Corridors as spatial instruments to channel and focus economic development

Science versus politics

Andrè Brand

5.1 Introduction

Globally, development corridors coupled with economic growth are not new and waves of various ambitious initiatives have emerged over time. One such initiative, exploring Asia, is the transnational Greater Mekong Sub-region (GMS) programme introduced in 1992 and involves Cambodia, China, Myanmar, Laos People's Democratic Republic (Lao PDR), Thailand, and Vietnam. The GMS programme was launched to link landlocked countries to attractive regional and international markets, thereby enhancing economic and cross-country integration (ADB, 2020; Qian, 2021). Economic development corridors initially evolved and expanded as pure transport routes (narrow transport-centric focus) and involved four different categorical approaches namely: 1) transport corridors; 2) trade corridors; 3) regional development corridors; and 4) spatial transformation corridors. The four categories are loosely viewed as quasi-nested in that each is broader and more ambitious in scope. The four categories are heuristic and are further refined into two broader cases namely: 1) M-type corridors focusing on movement, which is transport and trade; and 2) S-type corridors whose starting unit is spatial, which are regional development and spatial transformation (ADB, 2023). The GMS countries adopted a strategic framework built on the commitment that member countries will promote integration and envision more integrated, prosperous, and equitable sub-regions. The programme has been using economic corridors to promote economic growth and development. Economic corridors are investment areas, usually running along major highways, which connect centres of economic activity (ADB, 2010). Although the GMS countries took a supply-driven approach for economic development corridors under the notion that building roads will automatically translate into economic activity and growth, lessons learned are that this has not and will not work (Qian, 2021). Since the narrow transport-centric approach has been prevalent in the past and remains popular, in the last decade starting in 2012, a strategic shift was introduced. The GMS countries changed the notion by adopting a strategic framework where traditional hard infrastructure was complemented by policy reforms, organisational adjustments, and targeted interventions to promote trade, economic growth, and integration

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(ADB, 2023). The aim was to increase the openness of the region's economies and their integration with other regions, the rest of Asia and the world, shifting the focus towards S-type corridors with spatial as the starting unit validating functional connectivity superior to morphological connectivity.

Another example is the Trans-European Transport Networks (TEN-T), introduced in the 1990s when the European Union (EU) started to explore development corridors as a concept to reshape the spatial structure, as well as stimulate and improve the economic performance, of Europe (Hajer, 2000). The direction of thought primarily focused on the idea of linkages to create a borderless Europe to substantiate cross-border economic integration. The approach adopted was based on identifying a hierarchy or network of cities, linked by well-developed transportation routes (overarching transport solution), which would ensure the strongest impact on economic development. This will ensure that none of the cities within the hierarchy will operate in isolation but rather as a network represented at a global, national, and regional level, forming part of a highly competitive playing field (EC, 2011; EC, 2014 and Online: EC, 2022). The creation of an overarching transport solution is arranged around a coordinated improvement of multimodal transportation systems (sea, air, rail, and road) and compromises of two layers, namely 1) the Core Network constituting the most important connections, and 2) the Comprehensive Network covering all European regions. TEN-T envisaged that such coordinated improvements would provide integrated and intermodal, long-distance, high-speed routes to enhance accessibility and interaction, offsetting remoteness and making economic integration more viable (EC, 2014 and Online: EC, 2022). Furthermore, the European Commission's (EC) White Paper (EC, 2011) on Transport – 'Roadmap to a single European Transport Area – towards a competitive and resource-efficient transport system' – placed a specific focus on strengthening the alignment of TEN-T and transport policies to enhance increased mobility as a condition for inclusive and sustainable economic growth. The specific objective includes allowing the seamless, safe, and sustainable mobility of persons and goods, ensuring accessibility and connectivity for all regions of the Union, and contributing to further economic growth and competitiveness from a global perspective.

The key difference between the mentioned examples is the approach around connectivity. Asia recognised that traditional hard infrastructure does not necessarily work, hence the new strategic shift towards spatial as the starting unit (functional connectivity). Europe on the other hand placed strong emphasis on multimodal (sea, air, road, and rail) to enhance nodality, accessibility, and interaction, offsetting remoteness and making economic integration more viable. This chapter therefore aims to rationalise the justification of scientific reasoning (spatial and multimodal) when employing economic development corridors to pursue strategies towards cohesion and development within Regional Economic Communities (RECs) such as SADC.

The chapter follows a case study approach revealing an in-depth understanding of development corridors in the context of economic integration.

Although different research techniques exist, the chapter employed a quantitative research methodology which is central to the process of measurement and interpretation. The chapter is structured as follows: first, a general understanding of development corridors as a spatial instrument to promote economic development is discussed; second, how development corridors can be qualified in terms of scientific reasoning is elucidated; and third, a showcase of science as a compelling reasoning or interpretation methodology is provided. The chapter concludes with a synthesis and potential recommendations for the SADC member countries focused on the development corridor concept.

5.2 Development corridors

This section focuses on how the concept of development corridors can increase the spatial attractiveness of regions and cities as preferred locations. To understand spatial attractiveness, it is important to introduce the current theory on development corridor networks.

Economic growth tends to occur in the matrix or hierarchy of urban and regional nodes, and it is through this hierarchy that the evolving space economy is organised. In the view of Brunner (2013), applying the development corridor concept as an integrated spatial framework allows for the economic landscape to be mapped in a more dynamic way which allows for the distribution of benefits between cities and regions, i.e., when potential corridors are modelled along economic spaces, large cumulative benefits can become apparent promoting investment opportunities. Brunner (2013) suggested that corridors do not stand alone and their role in economic space development can only be comprehended in terms of the network effects that they induce, whereby new opportunities are created to foster economic growth and integration. This was also emphasised by Easley and Kleinberg (2010), Henning and Saggau (2012), and Felipe (2012), reasoning that, although networks can take on many forms, well-established and efficient network effects enhance accessibility and interaction, thereby creating high economic cohesiveness, which is an important element in the establishment of development corridors. Furthermore, according to Brunner (2013), corridors' role in economic development and integration depends, firstly, on the characteristics that the specific existing economic networks in which the corridors are embedded personify, and, secondly, on the characteristics that the corridor development intends to introduce or strengthen, i.e., functional economic areas.

The concept of what a development corridor entails is by no means regarded as simplistic. Although most definitions and narratives put forward different perceptions, development corridors are generally referred to as promoting urban reconstruction and the enhancement of urban growth. However, development corridors also bring forward other important alternatives such as the channelling of economic growth, the reconstruction of fragmented spatial

disparities, and the mapping of economic spaces (Yeates, 1984). Primarily, the function of corridors is to connect areas (urban and rural) across regions and countries to promote trade, that is, the movement of passengers and goods. Development corridors can be viewed as a network with multisector linkages and are considered most beneficial for promoting economic development. Countries' modus operandi towards development corridors as maintained is primarily supply-driven with the notion of creating an overarching transport solution (physical or morphological connections) that will automatically translate into economic activity and growth. The creation of an overarching transport solution is arranged around a coordinated improvement of multimodal transportation systems (sea, air, rail, and road) and compromises of two networks, namely 1) a main network constituting the most important connections, i.e., preferred cities and regions; and 2) a far-reaching network covering all potential regions (EC, 2014 and Online: EC, 2022). This aligns with Brunner's (2013) supposition that corridors do not generate significant economic benefits in isolation but rather have to be analysed as part of a network all linked together. However, Qian (2021) inferred that lessons learned signified that it has not and will not necessarily work. Brand and Drewes (2019) demonstrated that offsetting remoteness is more than just physical connections – it also provides for non-physical connections such as the sphere of influence (connectivity strength) of a region and how it can potentially be measured and interpreted. In their view, corridors should be qualified in terms of scientific reasoning. Such quantification of spatial measures provides a scientific base for objective and effective spatial targeting on a regional scale. As a consequence, development corridors have become multi-faceted.

Scholars such as Friedmann (1972), Tuppen (1977), Geyer (1988), Andersen and Burnett (1998), Arvis (2011), Buiter and Rahbari (2011), Henning and Saggau (2012), Srivastava (2012), Brunner (2013), and Brand (2017) put forward various ideas and considerations of what constitutes as a development corridor, and evidence from their works revealed two prominent characteristics: 1) there is a link between nodes which provides access to different levels of economic opportunities, and 2) the intensity of economic development at nodes varies in size and dominance. Although scholars such as Geyer (1988), Chittenden (1990), and Druce (1997) distinguished conditions such as that 1) corridors must have a vibrant development centre or node at both ends, with an axis linking the two centres; and 2) the centres or nodes must be mutually dependent, to support the flow of economic activities along the axis, as fundamental *attributes and properties* relating to development corridors, Gottmann (1961) and Whebell (1969) initially hypothesised the term 'corridor'. Gottmann (1961) made the argument that a corridor is a confirmation of the complex process of interaction (see Figure 5.1), be it social, economic, or administrative, between two primary development centres, which tend to augment the development process in each centre, as well as in secondary and intermediate centres on or in the proximity of the axis in between.

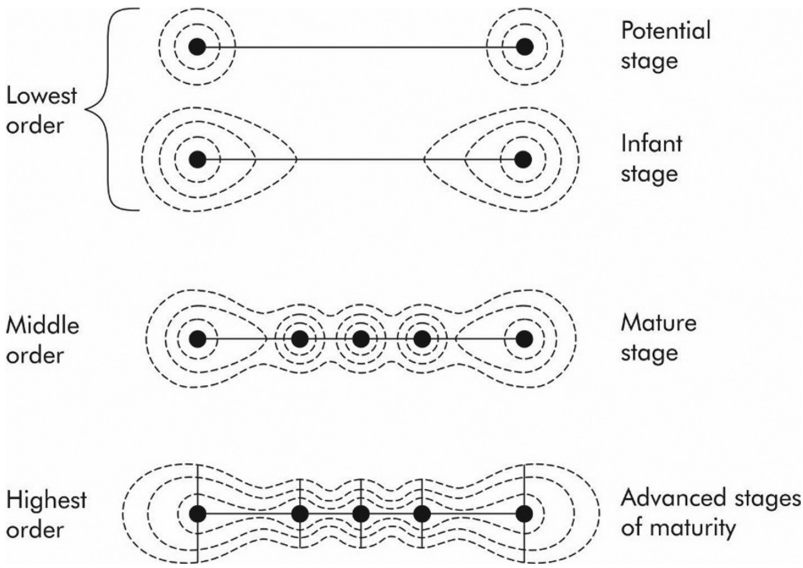

Figure 5.1 The chronological development process of corridors
Source: Adapted from Geyer (1988)

Easley and Kleinberg (2010), Henning and Saggau (2012), Felipe (2012), and Brunner (2013) placed emphasis on *networks* displaying economic cohesiveness. According to them, the impact of development corridors is not limited to specific regions. They emphasised that it was important to measure the creation of potential corridors against the economic cohesion of high and low networks in which potential corridors are embedded. This measurement (elaborated in detail under the section quantification of development corridors) establishes three key conditions 1) the degree of development; 2) the geographical scale – local, regional, national, and continental; and 3) the status of integration.

Development corridors can thus be described as axes that express development forces, i.e., an outcome of the flow of activities (goods, services, and information) between urban and regional centres, which leads to the manifestation of economic development. The functional relationships between development centres play an important and decisive role in the creation of corridors. Functional relationships are more than just physical connections, they also provide for non-physical connections such as shared economic spaces (Brand & Drewes, 2019). Aydan Sat (2018) emphasised that the functional dimension focuses on the flows amongst different centres, which gives information about their interdependencies, interrelations, and functional relationships. Therefore, one can conclude that development corridors create opportunities to strengthen partnerships and increase the

spatial attractiveness of regions and cities. One can further surmise that linking regions and cities not only improves their operational and economic efficiency but also creates a myriad of new economic opportunities – more specifically, it creates integrated networks of systems supporting the flow of goods; improved infrastructure; increased and more efficient interactions; and expanded business involvement.

5.3 Quantification of development corridors

Although economic corridors bring a wide range of benefits, it is much more complex than a mere road connecting two cities or regions. It involves not only the development of infrastructure but also the crafting of policies and regulations that make it easier to do business, access markets, and conduct other activities that support trade and development in a comprehensive and integrated manner (ADB, 2010). However, it seems that the rationale behind economic corridors especially in the case of SADC still revolves around morphological connectivity. SADC in their approach configured development corridors mostly starting at a seaport protruding inwards (Konstantinus, Zuidgeest, Christodoulou, Raza & Woxenius, 2019) via other types of transport infrastructure, quantifying it as less progressive. To rationalise the justification of being progressive when employing corridors to pursue strategies towards cohesion and development within RECs, the section focuses on scientific reasoning to quantify development corridors.

Brand and Drewes (2021) as a measure for scientific reasoning, developed a Regional Corridor Model (RCM) to quantify corridors and is based on three key measurements: 1) the spatial distribution of the size of economies; 2) the relative strength of economies based on proximity; and 3) the integrated and supporting networks of potential spatial targeting. As articulated in the international examples (refer to Section 5.1), development corridors do provide an alternative course of action to spatially transform economic space development. This is based on the notion that cities and regions as drivers of innovation are recognised as preferred locations to promote economic space development. Cities and regions need to consider their role in local, regional, and national innovation strategies, based on areas of competitive advantage. Preferred locations involve formulating an economic agenda which builds on, and innovatively combines, existing strengths in new ways. This means identifying a city's or a region's competitive advantage and mobilising stakeholders and resources around a motivational aspiration for the future.

Shedding light on the quantification of corridors necessitates a sequential approach focusing on four distinct measures, namely 1) merging cities constituting the corridor axis into extended development nodes, i.e., quantifying the relationship between cities based on the distance separating them; 2) quantifying the degree of economic attraction by each development node, i.e., measures the dominance each development node represents on the corridor axis (fundamental to understand efficiency); 3) quantifying the attraction

levels (gravitational forces) between the development nodes, i.e., measures the overall strength of connectivity based on distance friction, and 4) quantifying the potential significance of development corridors, i.e., potential spatial targeting the corridor axis can provide.

5.3.1 Extended development nodes

To realise the relationship between cities, one needs to consider the urban system concept. The concept of an urban system is not new; it was introduced by Doxiadis (1968) more than five decades ago. An urban system is a group of cities, which, in their evolution, become interdependent because of the many relationship networks being created that interconnect them to a greater extent. Friedmann (1966) perceived that there is a direct or indirect relationship between the interaction of cities and the distance separating them. To oversimplify, the locality of a city in relation to other cities would determine its level of interaction or synergy. According to Geyer Jr. and Geyer (2015), travelling distances between cities are used to functionally distinguish between cities within a network, i.e., to quantify the synergy between cities within a network and to distinguish development nodes.

The urban system includes all cities located within a commuting distance that creates a direct or indirect level of synergy, i.e., the association of cities in close proximity to one another when quantifying their synergy. Capello and Rietveld (1998) analysed the concept of synergy and arrived at two distinct meanings, namely 1) synergy is positive when two or more cities interact, or 2) synergy is externally caused by individual cities that voluntarily, or non-voluntarily, form part of a group of cities. Therefore, as conceptualised by Meijers, Waterhout, and Zonneveld (2005), the assumption is that cities close to one another relate to each other in a synergetic way, making the whole network of cities more than the sum of its parts. This allows, through the concept of synergy, for the merging of cities into broader development nodes, meaning creating a functional network of urban centres in the context of extended economic development nodes. Creating a network of economic development nodes not only provides a more practical approach to visualising and analysing the dominant distribution of economic activities across a corridor axis but also creates the opportunity to establish the degree of economic attraction or economic output levels exerted by each development node in relation to one another. This kind of merging not only broadens the overall scope for economic development and regional integration but also creates the opportunity to establish the overall sphere of influence exerted by each development node.

5.3.2 Economic output

Brand, Drewes, and Campbell (2021) perceived that the economic output exerted refers to the total population in relation to economically active populations, as well as the value of all goods and services produced in an economy

based on Gross Domestic Product (GDP)/Gross Value Added (GVA), and is primarily used to compare the relative economic output that exists between development nodes. They also emphasised that a well-developed, multimodal transportation network system is an essential ingredient in contributing towards the nature and extent of economic development. In this regard, sea and air transportation are considered primary key gateways when unlocking a country's economic development potential. Florida et al. (2012) asserted that although airports and seaports might seem disconnected from their locations, they are critical components of the connectivity of people and places. As such, they make important contributions to regional economic development. The main assumption is that the advancement in sea and air transportation resulted in lowering trade barriers, allowing for deeper integration of market access across the globe. Therefore, measuring the economic output exerted for each development node would require including an air- and seaport factor. Besides the fact that sea and airports lower trade barriers globally, sea and airports also represent a nodal locality which is an important consideration in the hierarchical ranking of urban centres (Geyer, 1988). In short, the outcome establishes the economic output levels of the network of development nodes relative to one another across a corridor axis. It also displays which nodes ultimately control the most dominant agglomeration of economic activities distributed across the axis.

As an additional measurement to verify the level of innovation for each development node, a diversification index can be applied. A diversification index measures the degree of concentration of a node or urban centre's economy on a sector basis. A value of 0 means that all economic sectors contribute equally to GDP/GVA, whereas a value of 100 means that only one economic sector makes up the whole GDP/GVA. The assumption is that urban centres are the key drivers of innovation. Therefore, a high diversification value equals low innovation and vice versa. The diversification output ultimately establishes a corridor level of innovation and potential sustainability that can impact spatial targeting.

5.3.3 Connectivity strength

Although the previous sub-sections determined the relevant economic advantages each respective development node along a corridor axis can provide, Brand et al. (2021) surmised that consideration should be given to the relative strength between development nodes to measure the potential of a corridor. A modified law of gravitation is considered because it is based on relative advantage, which is an index of link demand. According to Janelle (1969), the relative advantage of a given place attracts the centralisation and specialisation of economic activities, i.e., larger urban areas attract people, ideas, and commodities more than smaller urban areas. This is also emphasised by Johnston (1976), indicating that gravity correlates positively with the size of the economy, but negatively with distance, thereby providing a

good fit in determining potential development corridors. Sheppard (2012) noted, that to establish the distance friction effect, which ultimately defines the attraction levels between two places, it is important to incorporate direct and indirect connectivity between locations. The assumption is that if the distance increases, the attraction levels decrease and vice versa. Direct connectivity considers the distance between two places, and indirect connectivity considers the population count and the overall economic output. The outcome ultimately establishes the overall connectivity strength of corridors.

5.3.4 Corridor potential

Realising the overall strength of a corridor, the potential of the most predominant, prominent, and significant segments that comprise a corridor axis is determined by employing a corridor segment index. This allows us to discern the degree of integrated linkages (connectivity strengths) and the potential of spatial targeting upon which economic policies and mutual spatial development initiatives can be contrived (Brand et al., 2021).

The above measures provide a scientific base for objective and effective spatial targeting on a regional level. As surmised in the introduction, development corridors are primarily linked to well-developed transportation routes, which means that corridors were not necessarily qualified in terms of relevant datasets or scientific reasoning. According to Brand and Drewes (2023a), without a supportive scientific basis to confirm spatial targeting initiatives, it would run a significant risk to restrict spatial targeting on a regional scale.

5.4 A scientific interpretation: The SADC case

This section will focus on why economic and cross-country integration for the SADC member countries matters. The SADC's member countries include small, isolated economies with island states, a mix of low- and middle-income countries, and larger countries with potentially large economies. The economic geography reinforces the importance of economic integration to create a larger market and greater economic opportunities (Ranganathan & Foster, 2011). Concerning economic integration, the SADC propagates the development of regional connecting infrastructure, or 'development corridors', that ensure increased access between member countries for better trade and factor (labour, capital, or land) movements (SADC, 2013). The SADC corridors were first established in the 1980s due to the many landlocked countries in the regions. Still, the particular motivation was to bypass South Africa in rejection of the apartheid government at the time. SADC's approach to regional development was based on well-maintained and operated infrastructure and the provision of seamless transport services. SADC in their approach configured development corridors into 'clusters', that is, a grouping of countries served by a set of corridors, which share ports (sea) and or other types of transport infrastructure. The corridors were mostly identified starting from a seaport and developed protruding inwards towards

landlocked countries. The reason is that transport infrastructure throughout Southern Africa is more established. Most member states of SADC maintain dedicated road agencies. In comparison to other international initiatives, the SADC corridors are deemed successful. Attributes that institute them as successful include common political objectives, similar road and rail design and operational standards, cooperation amongst member states, and establishment of corridor-specific secretariats (Makumbe, 2012; Bowland & Otto, 2012; Konstantinus et al., 2019).

Ranganathan and Foster (2011) asserted that with SADC's relatively small and isolated economies, including island states, its economic geography is challenging. Currently, half a dozen of the SADC's member countries' economies are perceived as large or potentially large, with the economy of South Africa exerting the strongest influence on the region, serving as an economic anchor for the rest. Knitting these emerging economies more closely together and linking them to markets in South Africa would help to create a larger market and greater economic opportunities in the region. They argued that cross-country integration is the only likely way to overcome existing constraints and allow the SADC member countries to participate in the global economy. One potential way to overcome existing constraints is to assess basic needs, which include the formation of economic development corridors amongst landlocked countries and ports, as well as between major cities within a given country or region.

In consideration, SADC introduced its Regional Indicative Strategic Development Plan (RISDP) 2020–2030 (refer to Chapter 2), which is a coherent and comprehensive framework for the implementation of economic integration. It lays out, incrementally, concrete steps and milestones to be achieved in the journey towards Vision 2050. The Vision is anchored on three key pillars, namely 1) Industrial Development and Market Integration; 2) Infrastructure Development in Support of Regional Integration; and 3) Social and Human Capital Development. Economic development corridors in relation to the Vision are anchored on having quality interconnected regional infrastructure and networks that can facilitate the movement of people, goods, services, and knowledge (SADC, 2020). Integrating infrastructure is considered both a precursor to and an enabler of deeper economic integration, thereby helping countries to gain scale economies and harness regional public goods (Ranganathan & Foster, 2011). This signifies that the SADC member countries still associate development corridors with an effective intermodal transport system coupled with physical infrastructure and do not evaluate spatial measures that can put forward a scientific basis for objective and effective spatial targeting. In hindsight, SADC lacks scientific reasoning to enable an effective spatial targeted strategy.

The transport sector entails road, rail, air, and sea characterised by a coastline spanning 14,700 km and a total road network spanning approximately 900,000 km, of which 100,000 km are primary roads that connect major cities. Furthermore, it has more than 14,000 interconnected national

railway networks, which span 10,000 km and connect major ports of various regions (Konstantinus et al., 2019). As previously stated, SADC configured development corridors into 'clusters' that share seaports and or other types of transport infrastructure and were mostly identified starting from a seaport and developed protruding inwards towards landlocked countries. The 'corridor cluster' is exploited as a vehicle that addresses the basic needs shared by member countries (SADC, 2013). The 'corridor clusters' established in SADC are presented in Table 5.1. One can perceive that not only seaports but also an integrated infrastructure network (well-developed transportation routes) played a determining role in the establishment of the SADC development corridor strategy.

Table 5.1 SADC corridor clusters

Corridor	*Port*	*Member states*
Western cluster		
Lobito/Benguela	Lobito	Angola, DR Congo, Zambia
Bas-Congo	Matadi/Banana	DR Congo, Angola
Malange	Luanda	Angola, DR Congo
Namibe	Namibe	Angola, Namibia
Trans Cunene	Walvis Bay	Namibia, Angola, South Africa
Walvis Bay–Ndola–Lubumbashi (Trans Caprivi)	Walvis Bay	Namibia, Zambia, DR Congo
Trans Kalahari	Walvis Bay	Botswana, Namibia, South Africa
Trans Orange	Cape Town	Namibia, South Africa
Easter cluster		
Dar es Salaam Corridor	Dar es Salaam	DR Congo, Malawi, Tanzania, Zambia
Mtwara Development Corridor	Mtwara	Malawi, Mozambique, Tanzania, Zambia
Nacala Development Corridor	Nacala	Malawi, Mozambique, Zambia
Beira Development Corridor	Beira	Mozambique, Zimbabwe
Limpopo Development Corridor	Maputo	Mozambique, Zimbabwe
Southern cluster		
Maputo Development Corridor	Maputo	Mozambique, Swaziland, South Africa
Manzini–Durban	Durban	Swaziland, South Africa
Maseru–Durban	Durban	Lesotho and South Africa
Phalaborwa–Richards Bay	Richards Bay	South Africa, Swaziland
North–South cluster		
North–South Corridor	Durban	DRC, Botswana, Malawi, Mozambique, South Africa, Zambia, Zimbabwe

Source: SADC (2013)

In facilitating the 'corridor clusters' and infrastructure development that balance the needs of SADC regions, SADC released its Regional Infrastructure Development Plan (SADC, 2012). The plan follows the Programme for Infrastructure Development in Africa designating key areas of focus that have the greatest potential benefits to regions. In moving forward, transport infrastructure is more established than other infrastructural sectors. The region's infrastructure is high for Africa, and the road network is well-developed (Ranganathan & Foster, 2011). Considering that most member countries maintain dedicated road agencies, three corridors in particular – the North–South corridor; the Maputo corridor; and the Dar es Salaam corridor – are a focus since these corridors connect seaports to areas of industrial productivity (Online: SADC, 2022). These development corridors align with Ranganathan and Foster's (2011) assessment (GDP per 100km^2) that there are two bands of intense economic activity, namely 1) the first and more intense band runs from Durban (eThekwini) in South Africa northward up through Gauteng, Botswana, Malawi, Mozambique, Zimbabwe, and into Zambia encompassing both the North–South and Maputo corridors; and 2) the second and less intense band runs from northern Angola across the southern Democratic Republic of Congo and through Tanzania encompassing most of the Dar es Salaam corridor. Outside these areas, economic density trails off. This gives effect to the notion of how spatial measures can put forward a scientific base for objective and effective spatial targeting that signifies development corridors as multi-facet.

The question remains: does this imply that traditional infrastructure, which promotes connectivity, lacks the prospect of making economic integration more viable? Although roads are still prevalent and remain popular, in the view of Qian (2021), lessons learned signified that it has not and will not necessarily work, hence the reason why Asia introduced spatial as the starting unit and in hindsight placed functional connectivity above morphological connectivity. Ranganathan and Foster (2011) revealed that the volume of goods carried on Southern African corridors per kilometre is significantly higher than all other parts of Africa; as much as three times higher than West Africa, the region with the second largest traffic volumes. This suggests that the SADC region benefits from scale economies (saving in costs gained by an increased level of production) in regional road freight transportation to a greater extent than is the case in other parts of Africa.

Brand and Drewes (2023a) validate the scientific basis as outlined in the section quantification of development corridors also affirming the strategic shift introduced by Asia. In their view, the quantification of spatial measures provides for more compelling reasoning or interpretation when promoting spatial targeting. This is demonstrated by measuring two prominent case studies namely, 1) the *Durban–Free State–Gauteng corridor*, which is vital in facilitating economic growth for South Africa as well as the Southern African region, i.e., the corridor composes the most southern section of the North–South corridor controlling the bulk of regional road freight transportation,

and 2) the *Southern Economic Corridors* traversing between Thailand and Cambodia, which aim to promote sustainable development and increase competitiveness and connectivity with neighbouring countries. Although development corridors are primarily linked to well-developed transportation routes, the analysis of the mentioned case studies showed that although development corridors do exhibit high potential for spatial targeting that can unlock inherent economic potential, they also exhibit low potential for spatial targeting (see Figures 5.2 and 5.3). It is surmised that development corridors linked to well-developed transportation routes are limited in promoting spatial targeting when consideration is given to the following:

1) Integration between cities on a variety of spatial scales is recognised as an important driver of urban performance and economic growth. Leading preferred locations, which dominate in number of inhabitants, economic activities, innovation, investments, and cultural and other aspects, illustrate a monocentric characteristic that validates certain development nodes at the expense of others, i.e., limit integration between cities.
2) The role of innovation in developing competitive cities lies at the heart of policy and framework strategies for developing a sustainable competitive city, as cities are the place where innovation is initiated, accelerated,

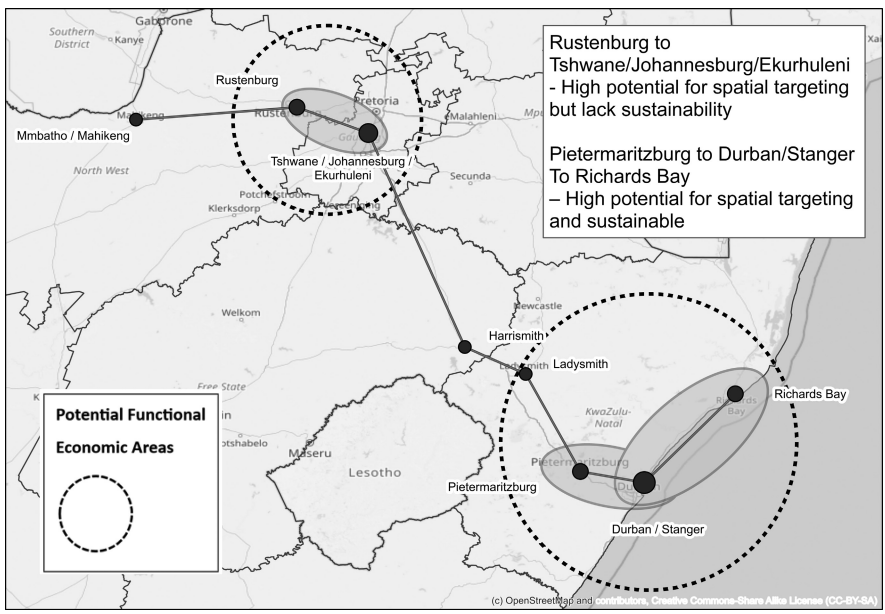

Figure 5.2 Durban–Free State–Gauteng corridor

Source: Brand and Drewes, 2023a

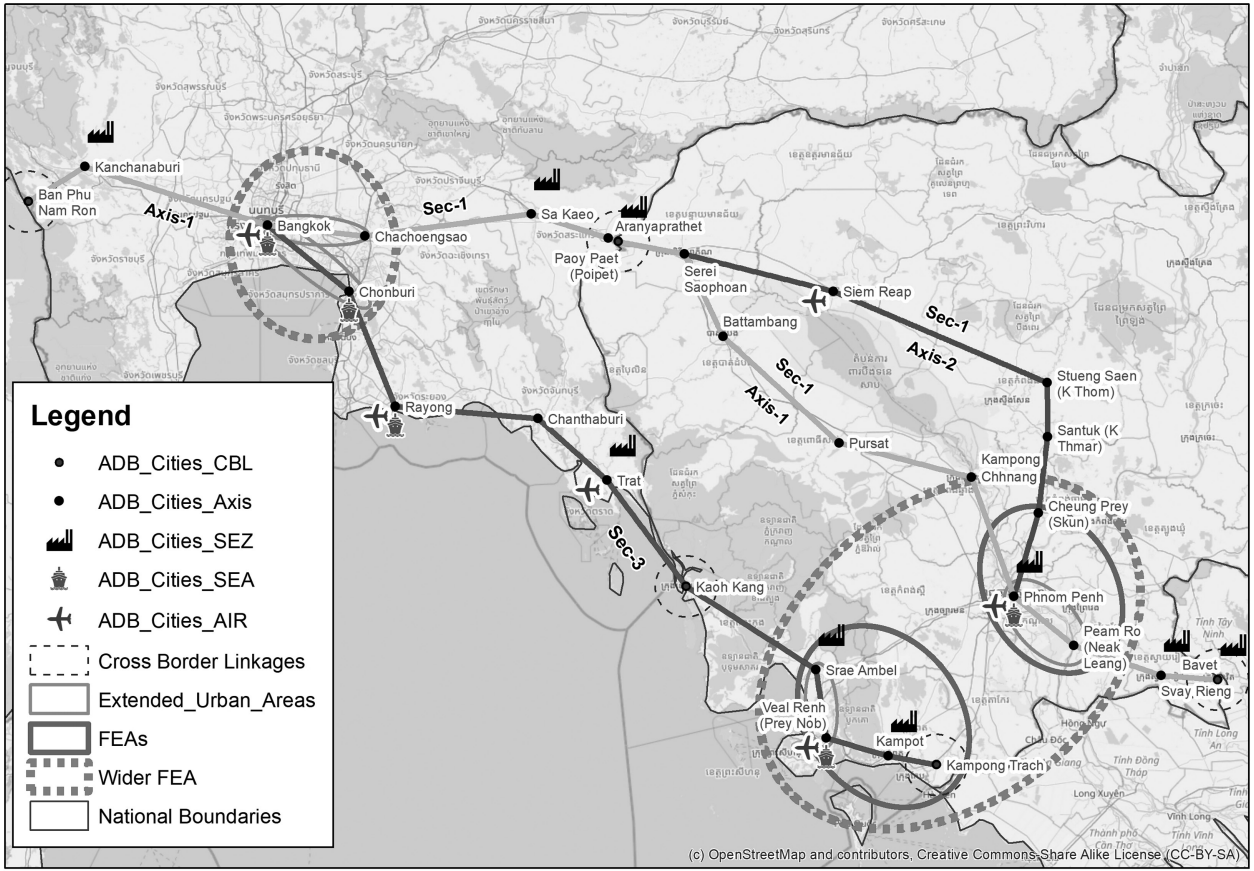

Figure 5.3 Southern Economic Corridor traversing between Thailand and Cambodia

Source: Brand and Drewes, 2023b

and adopted to deal with challenges. It broadens the scope for economic growth by enhancing economic development in some areas/places, and limits it and directs it away from others. Leading preferred locations can restrict strategies and policies when promoting outward-focused growth to increase the openness and integration of economies, i.e., restrict spatial transformation to be more explicit.

3) The degree of force development nodes exerted as benefits is dependent on distance friction, i.e., the connectivity strength between development nodes considering the distance separating them. Distance friction determines the potential strength of the segments that comprise a corridor. Distance friction correlates with a unique distance considering the dominance development nodes represent on an axis. Corridor segments that extend from a dominant preferred location induce potential benefits traversing specific distances. Distances beyond a certain configuration reduce connectivity strength (degree of force nodes exert) thereby limiting spatial transformation and integration.
4) The level of innovation and overall sustainability of segments that comprise a corridor being recognised as yielding high potential for spatial targeting is dependent on the degree of concentration of economic activities on a sector basis at a preferred location. If the degree of concentration of economic activities at a preferred location is less diversified, this reduces the potential sustainability of the corridor segment to induce potential economic benefits. On the other hand, if the degree of concentration of economic activities at a preferred location is more diversified, this enhances the potential sustainability of the corridor segment to induce potential economic benefits.

In short, cities or extended nodes that do emerge as preferred locations are normally well embedded on their respective axes and yield a strong urban network effect, i.e., a kind of incorporation effect that extends its sphere of influence creating a greater degree of access to economic benefits. On the other hand, sections that emerged as preferred corridor segments yield sufficient integration that allows other cities to tap into the benefits originating from the advancement of connectivity, i.e., a kind of fusion effect that creates new ways for cities and regions to improve their economic and social well-being. Lastly, Brand and Drewes (2023a) concluded that a monocentric characteristic at the expense of achieving urban equilibrium seems to be a key reason why corridors exhibit high as well as low potential for spatial targeting.

5.5 Synthesis

The introduction alluded to the notion that development corridors are viewed as a network with multisector linkages and are considered the most beneficial for economic integration. It is also evident that countries' course of action

towards development corridors is supply-driven with the view to create an overarching transport solution (physical connections) that will automatically translate into economic growth. Brand and Drewes (2019, 2023a), on the other hand, demonstrated that development corridors also provide for non-physical connections such as the sphere of influence or connectivity strength between places. According to them, as illustrated in Figures 5.2 and 5.3, development corridors linked to well-developed transportation routes are limited in advancing economic integration. They hypothesise that a scientific base provides more compelling reasoning when promoting economic integration. They advocate that without a supportive scientific basis to confirm spatial targeting initiatives, policies and targeted interventions run a significant risk of restricting economic integration. As a consequence, development corridors have become multi-faceted.

The SADC member countries still associate economic and cross-country integration with an effective intermodal transport system coupled with well-connected physical infrastructure. This suggests that the SADC member countries still consider regional freight transportation as key to accomplishing economic and cross-country integration. The GMS countries on the other hand adopted an adjusted stratagem by harmonising hard infrastructure with institutional policy and framework reforms, meaning they reverted from traditional hard infrastructure as the only justification to promote regional integration to spatial (functional) as the starting unit. What does such a proposition for SADC member countries imply? In hindsight, it implies that:

1) Confirming spatial targeting initiatives is to administer scientific reasoning as the basis, i.e., spatial as the starting unit. Such reasoning should be initiated at the functional urban network (urban system) level of a country (country by country). The direct outcome would embrace potential economic development corridors differentiated at a national level, which precipitates the establishment and integration of corridors at a cross-country level. The outcome can also potentially be compared to existing economic corridors when motivating vitality.
2) SADC member countries should engage in exchanges outside the areas of traditional hard infrastructure when fostering economic development.

In perspective, to mitigate corridor potential is to facilitate inter-regional development by enhancing the extent of corridors through scientific reasoning. Scientific reasoning, as illustrated in Figures 5.2 and 5.3, enables an objective and effective spatial targeted strategy. Spatial targeted strategy induces network effects whereby new opportunities are created to foster economic growth and integration, i.e., promote functional connectivity between well-functioning nodes (such as major urban areas) and smaller potential nodes (such as towns and villages). Functional connectivity produces an environment with a high degree of economic freedom.

5.6 Conclusion and recommendations

Development corridors are key for the pursuit of strategies towards cohesion and sustainable development within RECs such as the SADC. Development corridors can stimulate a balanced and harmonised development policy approach. The distribution of economically relevant functions over a network addresses the way that a multitude of development centres rather than one or two, gains economic significance.

One can surmise as development corridors link regions geographically that policymakers are required to adjust and harmonise institutional policies and frameworks to provide opportunities for increased economic growth and development. Considering that the harmonisation of regulations and procedures affects different levels of administrative and governmental jurisdiction (local, national, or international) would call for focused or spatial targeting and transformation to be more explicit in terms of its geographical application. A stronger focus should be placed on areas where sufficient agglomeration economies exist. The outcome of selecting certain cities or regions as preferred locations to channel and create development opportunities requires engagement outside the customary area of traditional hard infrastructure. Although connectivity through well-developed transportation routes is a critical determining ingredient, it is not the only fundamental ingredient in the advancement of spatial targeting. Spatial measures should be qualified in terms of scientific reasoning. Such a quantification provides for more compelling reasoning or interpretation when promoting spatial targeting. In retrospect, without a supportive scientific basis to confirm spatial targeting initiatives, policymakers run a significant risk of repeating historical errors. SADC as a Regional Economic Community to achieve development, peace and security, and economic growth, to alleviate poverty and to enhance the standard and quality of life of the peoples of Southern Africa, shouldn't allow political goals to overrule scientific reasoning.

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6 SADC's settlement hierarchy and networks in support of cross-border regional development

Johan Maritz, Alize Le Roux and Elsona van Huyssteen

6.1 Introduction

The Southern Africa Development Community (SADC) is undergoing rapid urbanisation. Since SADC's establishment in 1980, the population has surged from 127 million to 363 million in 2020, with urban populations expanding by 133 million (UN-Habitat, 2022). As of 2023, urban dwellers constitute 47.6% of the region's population, and this proportion will likely exceed 50% within the next five years (Le Roux, 2023). By mid-century, approximately 60% of the population will reside in urban areas, emphasising the escalating significance of these evolving spaces. Cities will be instrumental in shaping the region's economic and social fabric and will become central to development and integration. However, they will also be the epicentres of inequality and climate change impacts (van Niekerk & Le Roux, 2017).

The current trajectory suggests that urban areas will likely witness escalating poverty, inequality, and service delivery challenges (Le Roux & Napier, 2022). Swift political, economic, and social transformations will influence the dynamics between major financial and governance hubs and smaller cities and towns (UN-Habitat, 2014: 29). While the traditional concept of 'growth poles' has become outdated, cities and settlements play diverse roles as economic gateways and service providers, closely interacting with their surrounding rural areas (Wisner, 2015: 156).

This chapter underscores the importance and benefits of establishing a regional settlement profile for SADC. It is divided into three sections: the first examines the development trends influencing the region's settlement patterns; the second emphasises the significance of cities and discusses the need for a shared regional settlement profile, using the South African settlement typology as an example; and the third offers an analytical profile that utilises combined datasets to analyse the evolving settlement landscape in SADC.

The SADC is rapidly urbanising. Since its 1980 inception, the population has ballooned from 127 million to 363 million by 2020. Urban populations saw a 133 million surge. As of 2023, 47.6% of the region's inhabitants live in urban settings. This figure is projected to cross 50% in the next five years (Le Roux, 2023). By 2050, urban areas will house about 60% of the populace, spotlighting their increasing relevance. These cities will mould the

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regional socio-economic landscape, pivotal for development and integration. Yet, they're poised to become hotbeds of inequality and climate change consequences (van Niekerk & Le Roux, 2017).

Urban trajectories hint at rising poverty, inequality, and service delivery issues (Le Roux & Napier, 2022). Political, economic, and social shifts will redefine interactions between financial and governance epicentres and smaller urban clusters (UN-Habitat, 2014: 29). Though 'growth poles' as a concept may be passe, urban centres remain critical as economic conduits and service hubs, connecting intricately with neighbouring rural regions (Wisner, 2015: 156).

This chapter emphasises the merit of creating a SADC regional settlement profile. It unfolds in three segments:

- Review of regional settlement development trends;
- Spotlight on urban significance and the imperative of a shared settlement profile, with South African typologies as a case study; and
- An analytical outline leveraging collective datasets to dissect SADC's evolving settlement terrain.

6.2 Key development trends shaping SADC's urban spaces

The SADC region represents diverse countries regarding wealth, income, population size, and development challenges. The region includes Africa's only high-income country (Seychelles) and four of the continent's seven upper-middle-income nations (South Africa, Botswana, Mauritius, and Namibia). While the region's per capita income is far above the continent's average, it also contains some of its poorest and least developed nations. Four low-income countries (Malawi, DR Congo, Madagascar, and Mozambique) and seven lower-middle-income countries (Angola, Comoros, Eswatini, Lesotho, Tanzania, Zambia, and Zimbabwe) are also located in the region (Le Roux, 2023).

SADC has witnessed several dramatic development shifts since its establishment in 1980. Changes in regional integration and cooperation, democratisation, political stability, economic growth, infrastructure development, health-related challenges, repeated climate disasters, and peace and security challenges have all contributed to transforming the region's economic, social, and political landscape. A notable trend is the explosive growth of urban settlements (Le Roux & Napier, 2022).

6.2.1 Urbanisation and population growth

The SADC region is experiencing rapid urbanisation, putting immense strain on infrastructure, housing, and service delivery due to city authorities' inability to accommodate this growth sustainably. The slow response of governments in allocating land for housing has contributed to the rise of informal housing, as depicted in Table 6.1 (Le Roux & Napier, 2022). In 2000, 43 million people lived in urban slums in SADC, which doubled to 86 million by 2020 (World Bank, 2018).

Table 6.1 Percentage of urban dwellers living in informality in SADC

SADC countries	*Percentage of urban dwellers living in informality*	*Number of urban slum dwellers*
Democratic Republic of Congo	78	32.009,767
Comoros	69	174,930
Madagascar	67	7,193,894
Angola	63	13,732,533
Mozambique	55	6,583,219
Malawi	50	1,759,801
Zambia	48	4,022,981
United Republic of Tanzania	41	9,040,045
Namibia	41	547,722
Botswana	40	678,036
Lesotho	26	172,252
South Africa	24	9,571,315
Zimbabwe	22	1,229,487
Eswatini	11	37,601

Data source: Urban Indicators Database (United Nations, 2023) and World Development Indicators Database (World Bank, 2018).

The region's population is projected to grow from 391 million in 2023 to 614 million by 2043, with 72% of this growth occurring in urban areas. This underscores the importance of developing, managing, and enhancing the resilience of cities and towns (Mo Ibrahim Foundation, 2015 and United Nations, 2022).

The Democratic Republic of Congo, Angola, Tanzania, South Africa, Mozambique, Madagascar, Malawi, and Zambia are all countries forecasted to see significant urban growth pressure (Figure 6.1). Urban spaces within these eight countries will drastically change as cities expand and land uses change to accommodate the growing populations. The Democratic Republic of Congo hosts 37% of the region's informal urban dwellers.

6.2.2 Demographic structure

More than 40% of the population in the region is younger than 15 years, placing a high burden on providing educational and health services. Except for South Africa, Mauritius, and Seychelles, all countries are still to enter their first demographic dividend. There is some promising development as the region is edging closer to joining this dividend, with countries such as Zimbabwe, Namibia, Lesotho, and Eswatini set to enter their demographic dividend within the following decade.

6.2.3 Economic dynamics and poverty prevalence

The economy of SADC hinges on service industries, supplemented by sectors like manufacturing, agriculture, energy, ICT, and materials. South Africa's

SADC countries	2023 -2043 Growth in urban dwellers ('mil)	2043 Percentage Urban	2023-2043 Average population growth rate
Malawi	3.787	23.96	2.13
Eswatini	0.105	26.03	1.24
Zimbabwe	1.941	31.25	1.76
Comoros	0.187	33.54	1.96
Lesotho	0.274	38.56	0.58
Mauritius	-0.005	40.7	-0.09
Mozambique	13.75	48.94	2.42
Tanzania	28.42	49.52	2.47
Madagascar	12.26	53.51	2.16
Zambia	9.016	56.33	2.48
DR Congo	50.99	57.32	2.74
Namibia	1.03	68.3	1.52
Seychelles	0.012	69.45	0.19
Angola	25.22	74.9	3.08
South Africa	12.26	76.33	0.77
Botswana	0.812	81.35	1.32

Figure 6.1 Forecasts for the growth of urban dwellers in SADC

Data source: Forecasts generated by Ifs v 7.84 and available on the African Futures portal (ISS African Futures, 2023)

economy is more mature, while countries like Malawi, Zambia, Mozambique, Zimbabwe, Tanzania, and Angola lean on agriculture. Although SADC's GDP per capita outpaces other African regions, it trails globally. Notably, SADC holds the highest global inequalities (Cilliers, 2023b). Poverty is pervasive, with countries such as Madagascar, Malawi, the Democratic Republic of Congo, Mozambique, and Zambia recording above 50% poverty levels in 2023. The interplay of high informality, poverty rates, and population growth could escalate informality in cities, except for South Africa. SADC's economy primarily depends on service industries, complemented by sectors such as manufacturing, agriculture, energy, ICT, and materials. While South Africa boasts a mature economy, nations like Malawi, Zambia, Mozambique, Zimbabwe, Tanzania, and Angola rely heavily on agriculture. Although SADC's GDP per capita surpasses that of other African regions, it lags on a global scale. It's noteworthy that SADC registers the highest global inequalities (Cilliers, 2023b). Poverty remains rife, with countries like Madagascar, Malawi, the Democratic Republic of Congo, Mozambique, and Zambia reporting poverty rates over 50% in 2023. A mix of high informality, poverty rates, and population growth might further boost informality in cities, excluding South Africa.

6.2.4 Rural–urban migration

Given significant rural-to-urban migration, strategies to guide urban growth are essential. Several SADC nations have successfully enforced policies promoting sustainable urbanisation. For instance, the 2006 Malawi Growth and

Development Strategy slowed urbanisation rates through heavy rural investment. Similarly, countries like Botswana, Mozambique, and South Africa have implemented policies, each carrying unique triumphs and challenges. A more extreme example of retaining people within rural areas includes the 2006 Malawi Growth and Development Strategy, which resulted in slower urbanisation rates. This pro-rural policy saw the government investing heavily in rural spaces and their economies (agriculture), giving rise to the lowest urbanisation rate in SADC. Other countries such as Botswana, Mozambique, and South Africa have also implemented various urbanisation and migration policies to manage rural–urban migration, each with its successes and challenges. Urban policies in the region have been focused on addressing the challenges of rapid urban migration and growth in a sustainable developmental manner.

6.2.5 Conflict in the region

While SADC is relatively stable compared to other African regions, it has encountered conflict and instability, significantly affecting urban spaces' development. Civil wars in Mozambique and Angola, political instability in Lesotho and Zimbabwe, endemic conflicts in the Democratic Republic of Congo, the recent emergence of a jihadist insurgency in Mozambique, the struggle for democracy in South Africa, and violent political protests are just some of the events that have contributed to the instability of the region. The conflict has also profoundly impacted the development of urban spaces in SADC. Conflicts can redirect essential resources, change spending priorities, and inhibit new development. For instance, conflict in the Cabo Delgado region of Northern Mozambique led to a significant urban influx of internally displaced persons, burdening authorities and infrastructure. Conflict also impacts extractive economies (e.g., mining) and agricultural production and trade, impacting people's livelihoods in rural regions, forcing many to seek alternative means of income and adding to urbanisation.

6.2.6 Lack of critical infrastructure

The infrastructure backlog across Africa is exceptionally high. In 2019, electricity access was below 54%, and improved sanitation access reached 57% (Cilliers, 2023a). SADC's aggregate electricity access rate stood at 39% in 2019, while access to rural roads was below 55% (Le Roux, 2023). This lack of infrastructure can contribute to slum formation. Insufficient access to sanitation services, roads, and housing can lead to health threats and limit public transportation, impeding mobility and access to vital services. Often shelter and land are occupied in unsafe high-risk areas exposing these vulnerable communities to natural hazards such as floods, wildfires, and landslides. The lack of access to critical health services, amplified by the high disease burden, is evident in the region's high infant and maternal mortality rates.

Poor road access and limited public transportation limit mobility within and between urban spaces and impede access to critical services. Often these

cities need to be better connected to their rural hinterlands. A considerable infrastructure deficit plagues Africa. In 2019, only 54% had access to electricity and 57% had improved sanitation (Cilliers, 2023a). SADC's combined electricity access rate was just 39% in the same year, with rural road access even lower at 55% (Le Roux, 2023).

6.2.7 The impact of climate change

Despite minimal contributions to climate change, Southern Africa illustrates the intricate interplay between the physical climate and human systems. Over the past four decades, SADC has reported 36% of all weather-related disasters in Africa (Mbiyozo & Le Roux, 2021), causing substantial human and infrastructural losses. Dense urban areas in SADC are especially vulnerable to climate change effects, impacting significant populations and urban economies (Engelbrecht et al., 2022). Climate change will likely exacerbate many of SADC's existing challenges, leading to increased disaster losses (Le Roux, 2021).

6.3 The need for a shared regional settlement profile

Cities and towns are increasingly recognised for their significant role in addressing the Sustainable Development Goals and global climate change challenges (Parnell, 2015; Sassen, 2015; Aerni, 2016). The SADC region's development intertwines with the dynamics, opportunities, and risks within its cities, towns, settlements, and their hinterlands. These locations act as hubs for economic activities and are essential for service provision, including healthcare, education, water, and sanitation. Ensuring access to these services in urban areas is crucial for reducing vulnerabilities and inequalities (SADC, 2019; UNDESA, 2020). The subsequent section delves into the need for a shared regional settlement profile.

6.3.1 The importance of cities and network of settlements in SADC development

The SADC's Vision 2050 stresses the centrality of cities to economic activity and the provision of essential services. However, unchecked urbanisation can lead to challenges, including urban sprawl, the rise of informal settlements, and environmental degradation. Cities need to be resilient, well-prepared to address vulnerabilities, and capable of recovering from setbacks (SADC, 2020; UNDESA, 2020; Poelmann, 2014).

In the SADC region, enhancing regional connectivity, primarily through infrastructure, is essential for promoting regional integration and enabling sustained economic growth. Improved connectivity facilitates trade, increases accessibility, and consequently reduces disparities in rural areas. Strengthening the ties between urban and rural areas is vital to counter regional inequalities, ensuring development benefits are widespread across the region (SADC, 2012; AU, 2021). Collaborations at the city level can spur the creation of local solutions and accelerate knowledge transfer and best practices (OECD, 2022).

Table 6.2 Defining urban for countries in SADC

Country	*Considerations*
Angola	Geographic areas with a high population density and concentrated population groups with a high level of infrastructure.
Botswana	Agglomerations of 5,000 inhabitants or more where at least 75% of the economic activity is non-agricultural.
Comoros	Administrative centres of prefectures and localities with 5,000 inhabitants or more.
Congo	For 1984 and later, six communes: Brazzaville, Pointe-Noire, Dolisie/Loubomo, Nkayi, Ouesso, and Mossendjo.
Eswatini (Swaziland)	Localities officially designated as urban.
Lesotho	District headquarters and other settlements with rapid population growth and with facilities that tend to encourage people to engage in non-agricultural economic activities.
Malawi	Townships, town planning areas, and district centres.
Mauritius	Towns with proclaimed legal limits.
Madagascar	Centres with 5,000 inhabitants or more.
Mozambique	For 1997 and 2007: 23 cities and 68 towns/villages. For 1980, 12 cities: Maputo, nine provincial capitals, and the cities of Nacala-Porto and Chokwe. For 1950 to 1970, Conselho of Maputo and Beira. Estimates prior to 1980 were adjusted to take into account other urban settlements.
Namibia	The district headquarters and other settlements of rapid population growth with facilities that encourage people to engage in non-agricultural activities.
United Republic of Tanzania	For 1978 and later, all regional and district headquarters and wards with urban characteristics (i.e., exceeding certain minimal level of size-density criteria and/or with many of their inhabitants in non-agricultural occupations). No specific numerical values of size and density are identified, and wards are defined as urban based on the decision of the District/Regional Census Committees. For 1957 and 1967, 16 gazetted townships.
Seychelles	No official definition is available. In the present publication, prior to 1971, Victoria city proper (capital). For 1971 and later, the greater Victoria agglomeration plus districts with at least 1,500 inhabitants per inhabited square kilometre in 2002 (Cascades, Pointe Larue, Anse aux Pins).
South Africa	A classification based on dominant settlement type and land use. Cities, towns, townships, suburbs, etc., are typical urban settlements. Enumeration areas comprising informal settlements, hostels, institutions, industrial and recreational areas, and smallholdings within or adjacent to any formal urban settlement are classified as urban. The 1996 estimate was adjusted to comply with the 2001 census definition. Estimates for 1980, 1985, and 1991 were adjusted to account Transkei, Bophuthatswana, Venda, and Ciskei populations.
Zambia	Localities with 5,000 inhabitants or more and with a majority of the labour force not in agricultural activities.
Zimbabwe	Places officially designated as urban, as well as places with 2,500 inhabitants or more whose population resides in a compact settlement pattern and where more than 50% of the employed persons are engaged in non-agricultural occupations.

(Source: Extracted from (WorldPop, 2023))

Table 6.3 Comparative classification criteria for urban concentrations in Africa

Categories	*Description*	*Criteria for categorisation*	*Examples as used in respective typologies*
Metacity and megacity regions	Rapidly growing urban clusters or regions of more than 20 million (m), formed due to expansion, growth, and geographical convergence of more than one metropolitan area/other agglomerations	Criteria related to size and geographical area	Gauteng City Region
Megacities and Large Cities	Megacities: 10 million people or more	Description and criteria related to size	Cairo (19 m); Lagos (13 m); Kinshasa (12 m)
	Large cities: 5–10 million people	Description and criteria related to size	Abidjan (5 m); Dares Salam (5.4 m); Khartoum (5.3 m); Johannesburg (9.6 m); Luanda (5.7 m); Nairobi (4.1m)
Large cities	Large cities and medium cities: 1–5 million people. Typically includes cities that functioned as colonial and regional administrative capitals, either characterised by government service or more specialised functions, for example, mining or tourism	Description and criteria related to size	Casablanca (3.5); Cape Town (3.7 m); Dakar (3.7 m); Ouagadougou (2.9 m)
Small and new cities	Small cities: 0.5–1million	Description and criteria related to size	Bangui (0.81 m); Benghazi (0.76 m); Liberville (0.72 m); Tamale (0.51 m)
	Small and new cities About 100,000–500,000	Description and criteria related to size	Calabar (0.49 m); Windhoek (0.38 m); Zinder (0.39 m); satellite cities e.g. Eko Atlantic, Waterfall, Konza

(*Continued*)

Table 6.3 (Continued)

Categories	*Description*	*Criteria for categorisation*	*Examples as used in respective typologies*
Small urban towns and settlements	Fewer than 300,000 people	Description and criteria related to size	
	Urban Services & Regional and district headquarters; morphology; areas where there is a concentration of houses and institutions [sic], police stations, post offices, health centres, and streets	Administrative functions and morphology	Tanzania
	Settlements of at least 5,000 inhabitants	Size, morphology	Ghana
	Administrative headquarters with at least 2,000 inhabitants	Administrative functions and size	Cameroon
Urban municipalities	Official urban municipalities/urban administrative units recognised as such by law	Administrative functions	Rwanda, South Africa

**Source:* Authors. (Adapted from Slavova, 2016: 217; European Commission, 2014; Wisner, 2015; UNDESA, 2020; Paterson et al., 2017: 109 and Angelou, 2015)

6.3.2 The need for comparable information on SADC cities and settlements

Given this backdrop, there's an urgent call for a shared comprehension of the distribution of population, infrastructure, economic undertakings, and vulnerabilities within the SADC region. This shared understanding is essential to craft impactful regional development strategies. Mr. Charles Mushota underscored the importance of having a harmonised definition of cities for local urban SDGs and New Urban Agenda (NUA) indicators, and for monitoring and reporting on the Africa 2063 agenda at the 2019 SADC Regional Workshop in Lusaka. In a similar vein, Mr. Thomas Chiramba of UN-Habitat emphasised the value of such harmonisation for the sake of data comparison, agenda monitoring, and informed decision-making processes on sustainable urbanisation (UN-Habitat, 2019).

This collective understanding is paramount for various reasons:

- Identifying areas where populations and economic activities are concentrated to allocate resources effectively and target infrastructure

development. The SADC Regional Infrastructure Development Master Plan Executive Summary stresses the significance of infrastructure integration for regional progress (SADC, 2012).
- Understanding the relationship between urban population densities and economic growth, as emphasised by the Regional Assessment on Urban Vulnerability and Resilience in the Southern African Development Community Member States (UN-Habitat, 2020).
- Identifying vulnerable areas for effective disaster risk reduction and enhancing resilience (UN-Habitat, 2020).
- Gaining insights into cross-border economic activities, as described in the SADC – Regional Infrastructure Development Master Plan (RIDMP) – Energy Sector Plan (SADC, 2012).
- Recognising the disparities in development resulting from differences in population and economic concentrations.
- Grasping the environmental implications of these concentrations and understanding the subsequent need for environmental sustainability.
- Aligning policies across member states to encourage regional integration, using a consistent baseline to understand crucial urban transformations (Baltic Scope, 52015).

6.3.3 Challenges and considerations for comparable profiling of the SADC settlement network

The SADC's Vision 2050 stresses the centrality of cities to economic activity and the provision of essential services. However, unchecked urbanisation can lead to challenges, including urban sprawl, the rise of informal settlements, and environmental degradation. Cities need to be resilient, well-prepared to address vulnerabilities, and capable of recovering from setbacks (SADC, 2020; UNDESA, 2020; Poelmann, 2020).

In the SADC region, enhancing regional connectivity, primarily through infrastructure, is essential for promoting regional integration and enabling sustained economic growth. Improved connectivity facilitates trade, increases accessibility, and consequently reduces disparities in rural areas. Strengthening the ties between urban and rural areas is vital to counter regional inequalities, ensuring development benefits are widespread across the region (SADC, 2012; AU, 2021). Collaborations at the city level can spur the creation of local solutions and accelerate knowledge transfer and best practices (OECD, 2022).

Challenges in data granularity: Acquiring detailed and comparable data is often difficult. However, there are promising methods that offer value in exploring comparable yet settlement-specific indicators. A notable example is the Degree of Urbanization (DEGURBA) approach. This method, developed by UN-Habitat (2019), classifies areas into cities, towns, or rural zones based on uniform grids measuring one square kilometre. Each grid's character is evaluated based on population density, and the cumulative population of

contiguous grids determines their collective classification. When applied, this method revealed that regions like Botswana and South Africa have more urban areas than nationally recognised, implying significant implications for regional and urban policy.

Indicator selection amidst limited data: The choice of indicators for profiling is a contentious issue, especially given the limited data availability. Using metrics like population size and density for comparison can be problematic due to historical, contextual, and topographical variations. Many settlements in Southern Africa did not evolve through a Western perspective, which typically results in a predictable hierarchy. Instead, traditional African settlements, deeply connected to land and agricultural practices, have influenced the region's settlement patterns.

The spatial dynamics of settlement: Settlements are interconnected, forming spatial patterns and hierarchies. Moles et al. (2002) suggest that sustainability can be approached through these spatial patterns and typologies. Larger settlements and cities reach a threshold for infrastructure, especially concerning wastewater management. However, large settlement clusters without adequate infrastructure can pose significant risks. In developed contexts, larger settlements are often assumed to have more infrastructure and are more efficient to support their populations. This assumption may not hold in all contexts, particularly when settlements expand informally; and

Responding to change and population movement at scale: Furthermore, focusing solely on economic activity and formal infrastructure might overlook massive settlements formed due to disasters or conflicts. While these might not be classified as formal urban areas, they are likely permanent and necessitate comprehensive urban and regional policy solutions.

Additionally, the challenge of selecting appropriate indicators for profiling is accentuated by limited data availability. Profiling criteria, such as population size and density, might be contentious due to historical, contextual, and topographical variations. Settlement patterns in the Southern African region do not necessarily align with Western models.

6.3.4 Practice lessons: A settlement typology in support of national, urban, and rural development

A key challenge in the SADC region is the material and economic disparities between large cities, settlements, and rural communities. This disparity is partially due to the focus on resource extraction during colonial times, which led to infrastructure investment for accessing and exporting resources like coal, iron ore, and gold. South Africa's national Apartheid policies created separate homeland territories and settlement patterns without structure. The South African settlement landscape is heterogeneous regarding terrain, development level, historical development, and climatic and natural resource base. Settlements are unevenly distributed and do not fit into a theoretical model of the central place concept. Therefore, when allocating facilities,

consideration is needed for settlement hierarchy based on development, population, accessibility, redress, and social needs. Relying solely on numerical provision standards based on catchment population would not result in spatial equity and social justice. Exploring intra and inter-settlement patterns, trends, dynamics, and inter-relational shifts is critical to address these challenges and reshape settlements.

The CSIR/SACN South African Town Typology was developed to explore settlement dynamics at regional and national scales. It identifies functional towns and settlement areas in South Africa by utilising official data captured at the municipal scale and finer-grained information for settlement-level analysis (van Huyssteen et al., 2018). The South African mesozone dataset was developed in 2008 to cover the entire country, using a grid of 25,000 spatial tessellated units (Mans et al., 2018). These units represent settlements within main municipal features and contribute to the classification of places based on their relationships. Information on population and economic production assigned to the zones is used for profiling and categorisation.

The CSIR's South African settlement typology was revised during the National Spatial Development Framework (2018–2020) development to incorporate social service provision across rural regions and manage a network of cities, towns, and settlements. The revision included consideration for social facilities, services, and infrastructure networks. The typology identifies and addresses gaps in the settlement network, supports interventions for expansion or new settlements, and manages decline and negative growth in urban areas. It informs regional and national development policies.

The significance of such settlement typologies is underscored by van Huyssteen et al. (2018). They argue that these classifications support the integration of regional and local-level planning efforts in the region. Adopting shared profiles can boost cooperation amongst SADC member states, leading to improved socio-economic conditions. The African Development Bank (Mo Ibrahim Foundation, 2015) emphasises the need to merge national urban strategies, regional development models, and settlement typologies to maximise development returns.

The National Spatial Development Framework proposes the Regional-Rural Development Model, ensuring rural regions are connected to larger centres. Each region should have a well-connected regional development anchor as a key service and development node. Intra-regional trade between towns and villages is essential. The model emphasises the interconnectedness and interdependence between places, even if the closest major urban core is outside the region. It follows a hierarchical approach to service delivery, placing high-level services in the highest-order centres and lower-level services in smaller places.

The typology was developed with a multiplicity of policy and stakeholder inputs, explicitly aimed at informing policy – in 2007 as part of the National Spatial Development Perspective, in 2011 to inform the National Development Plan, and in 2013 and 2014 to support the Integrated Urban Development Framework (IUDF) and Rural Development Service Guidelines,

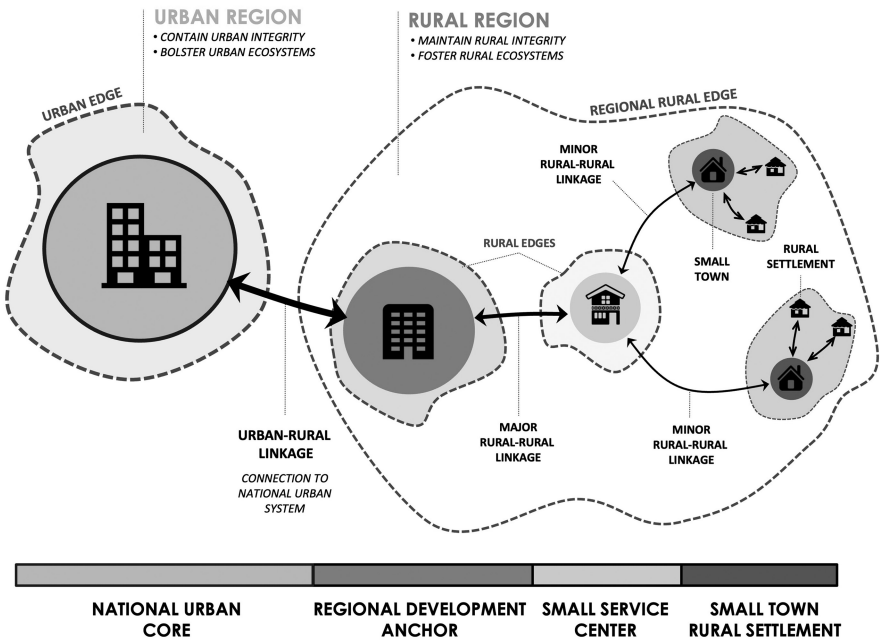

Figure 6.2 Regional-rural development model

Source: Department of Agriculture, Land Reform and Rural Development, 2023

respectively. It was also a critical item in the development of the National Spatial Development Framework in 2022.

The South African settlement typology illustrates the value of using a cross-section of information such as settlement size, spatial location, role within the hinterland, population, economic activity, and service functions. It provides a comprehensive understanding of settlements and informs development goals.

6.4 An analytical view of the region's settlement hierarchy

Recent studies have emphasised the significance of sharing information on the network of cities and settlements for both country-specific and cross-border planning, as well as for policy alignment (OECD, 2022: 67, 68, and 112). To address the existing information gap, the following considerations are crucial:

- Firstly, there is an imperative to recognise a broad spectrum of urban areas, ranging from expansive urban conurbations to smaller towns and settlement regions;
- Secondly, the analysis should employ relevant and consistent information; and

- Thirdly, the criteria should encompass at least two indicators: population size and density, as well as a measure of economic activity.

Lessons from the development of the South African settlement typology highlight the essential role of policymakers in shaping the typology. Their engagement ensures its relevance and applicability. The subsequent section offers a comprehensive desktop profiling, underlining the potential feasibility and advantages of such analytical methods.

6.4.1 The SADC settlement landscape

The settlement landscape within the SADC region is markedly diverse. Some regions showcase dense and concentrated settlement configurations, while others feature expansive territories with sparse settlements. Figure 6.3a visualises the regional settlement patterns, spotlighting several densely populated clusters like the metropolitan regions in South Africa, northern Zambia, southern Malawi, and pivotal cities including Luanda, Harare, Maputo, Arusha, and Dar es Salaam. Utilising Africapolis data allows for tracking settlement evolution at a granular level. Figure 6.3b pinpoints the most substantial settlement expansions from 2000 to 2015, revealing countries like Angola, the Democratic Republic of the Congo (DRC), Zambia, Tanzania, and Malawi as areas with multiple settlements, each witnessing growth beyond 100,000 within the 15-year span.

Conversely, nations such as Namibia, Lesotho, Swaziland, and Botswana have not observed analogous urban growth magnitudes. These cartographic representations also display a diverse settlement dispersion throughout the region. As elaborated in Section 6.3, a meticulously curated settlement typology can deliver a nuanced, consistent portrayal of regional settlement patterns and trends (van Huyssteen et al., 2018).

6.4.2 SADC settlement typology

Settlement typology involves systematically studying and classifying different types of human settlements. This classification incorporates factors like population size, spatial configuration, functional attributes, and economic endeavours. It offers planners and policymakers insights into regional variations and diversities. On a national scale, it can illuminate development patterns and trajectories. It's crucial to note the nuances when interpreting the typology across scales. For instance, while Windhoek stands as Namibia's preeminent urban centre, its significance diminishes when juxtaposed against the broader SADC landscape (Schmidt & Du Plessis, 2013).

A formidable challenge at the SADC regional level is the periodic unavailability or inconsistency of subnational data. For this study, the authors synthesised available data spanning the entire African section of the SADC for a uniform time frame. Two principal datasets were employed: the WorldPop

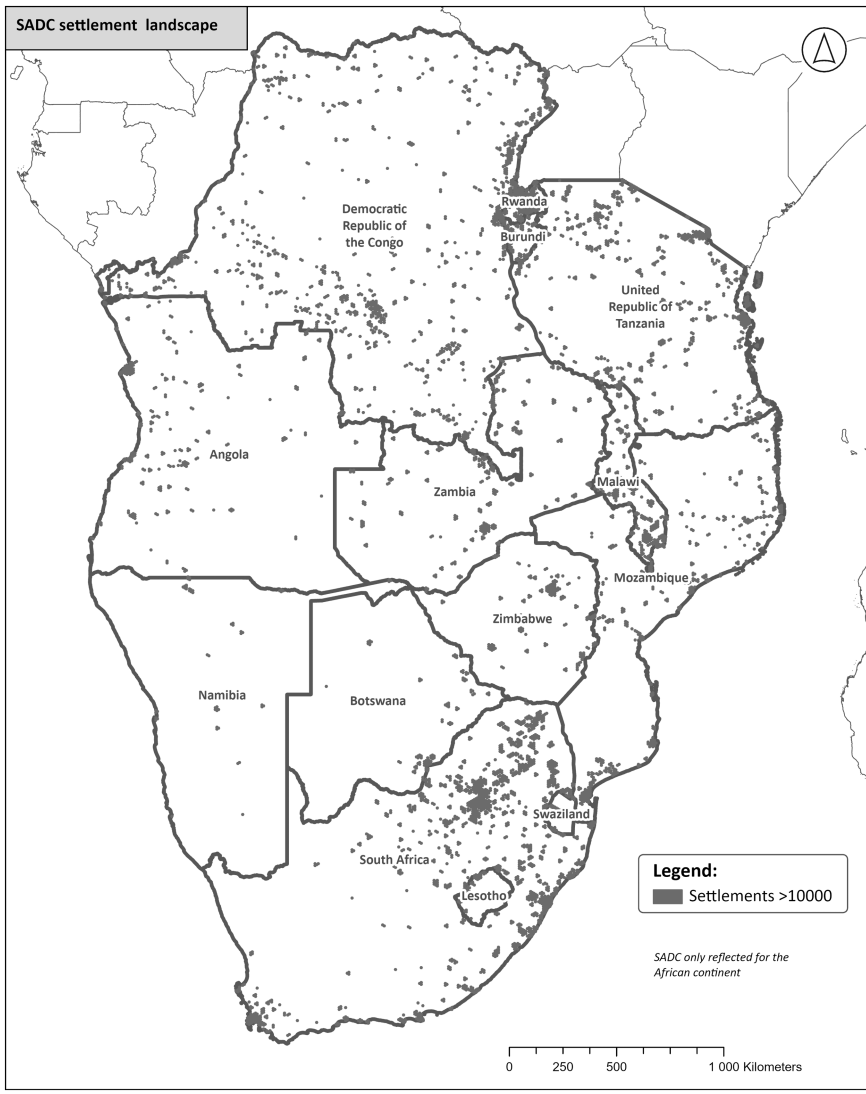

Figure 6.3a SADC (Africa) settlement landscape(a) and largest growing settlements 2000–2015(b)

Sources: WorldPop (2023) and Africapolis (2022)

database and Night light data. The WorldPop database amalgamates satellite imagery, census information, and diverse geospatial data to craft detailed population distribution models. These models predict population distribution dynamics across various scales (WorldPop, 2023). Night lights data, on the other hand, captures the intensity of human-generated artificial nocturnal

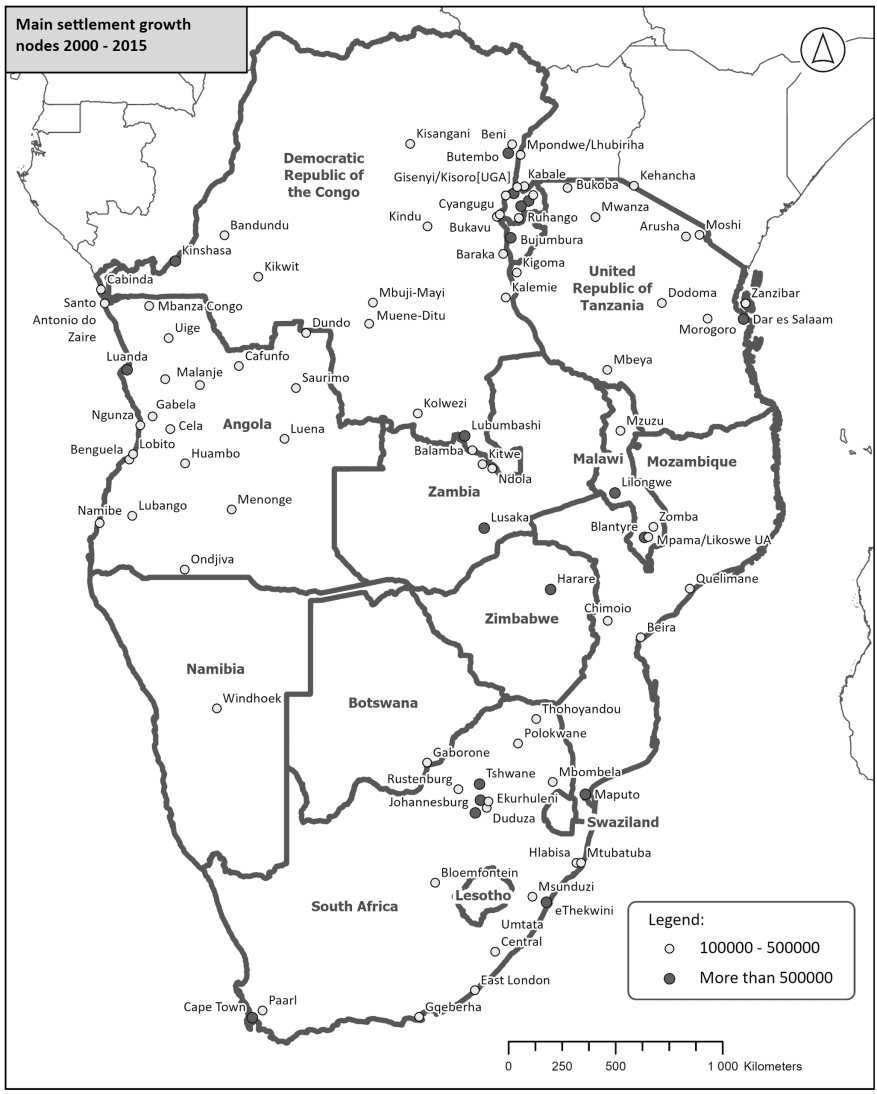

Figure 6.3b SADC (Africa) settlement landscape(a) and largest growing settlements 2000–2015(b)

Sources: WorldPop (2023) and Africapolis (2022)

illumination. This illumination emanates from sources like streetlights, industrial infrastructures, and commercial establishments. The rising prominence of this data reflects either the absence or the perceived imprecision of traditional economic statistics (Gibson et al., 2020). Additionally, the Africapolis dataset provides details on settlements spanning large metropolitan areas to

smaller towns with a minimum of 10,000 inhabitants (Africapolis, 2022). Given the variable granularity of these datasets, a spatial framework was imperative for their integration.

Due to this information's differing grain and scale, a spatial framework was required where these items could be integrated. A hexagon tessellation was created extending over the SADC countries on the African continent. This tessellation is small, with a hexagon side length of 5 km (hexagon area of 65 km^2). The WorldPop and Night light data items were converted to point features and then summarised onto the hexagon tessellation. The spatial footprint areas from the Afripolis data were also related to the hexagon base to reflect identified settlements. Settlement areas extracted from this base were sorted based on population and economic proxy totals. A six-level categorisation was developed using the South African Functional Town Typology as a guide. Table 6.4 lists the population as well as night light categorisations. Night lights data was sourced from the Defense Meteorological Program (DMSP) Operational Line-Scan System (OLS), which produced cloud-free composites (Earth Observation Group, 2023). The intensity of light per 500-metre pixel was related to the hexagon tessellation. The derived combined unit scores per settlement were used to gauge the extent or magnitude of potential economic activity. Similar to the population 'size', a 5-level categorisation was also derived for the economic proxy (Table 6.4).

It is acknowledged that the development level of countries across the region differs. Consequently, some would not have the large cities and city regions that, for example, are present in South Africa. It does, however, help to have a comparative measure across the region. Combining the population and economic proxy grouping results in a six-level typology (Table 6.5).

Table 6.4 Population and economic proxy classes.

Population class	*Population number*	*Economic proxy*	*Night light units*
Very large population	Above 1,000,000	Large economic production	Above 10,000
Large population	300,000–1,000,000	Medium economic production	5,000–10,000
Medium to large population	100,000–300,000	Low economic production	1,000–5,000
Medium population	20,000–100,000	Limited economic Production	Less than 1,000
Small population	Less than 20,000	Unknown	No data

Source: Compiled by authors, 2023

Table 6.5 Africa SADC region settlement typology.

Town order	*Description*	*Population ranges*	*Economic proxy ranges*
1	City regions	Very large population (Above 100,0000)	Large economic production
2	Cities and large regional centres	Large population (100,000–300,000)	Large to medium Economic production
3	Regional centres	Medium to large population	Range from large economic production to unknown if the population exceeds 100,000
4	Service town	Large to medium population (100,000–20,000)	Range from low to limited economic production
5	Small service town	Small population (10,000–20,000)	Range from low to limited economic production
6	Small town or local service town	Small population (Less than 10,000)	Range from unknown, low to limited economic production

Source: Compiled by authors, 2023.

Figure 6.4 reflects the spatial presentation of the settlement typology. When comparing the typology to the overall population distribution, the typology is a fair reflection of the spread and concentration of people across the region. Settlement patterns vary regionally, depending on differences in ecology, economy, and communication routes and on the distribution of natural resources and trading centres. With low production levels in most parts of the region, the observed general pattern is that of rural settlements where agriculture production and lifestyle still dominate (World Culture Encyclopedia, 2023). However, not part of the SADC region, Rwanda and Burundi are almost encapsulated by SADC member countries. When considering their small size, many settlements and their population [13462000 and 12551000, respectively (WorldData.Info, 2023)], they form a significant settlement area bordering DRC and Tanzania. The main road network is more developed along the region's eastern part with fewer east-west road and rail connections.

6.4.3 Main settlement nodes in the SADC region

To identify the dominant settlement clusters within the SADC region, the hexagon settlement base was employed alongside the Getis-Ord Gi* statistic. The resultant analysis spotlighted locations with dense populations neighboured

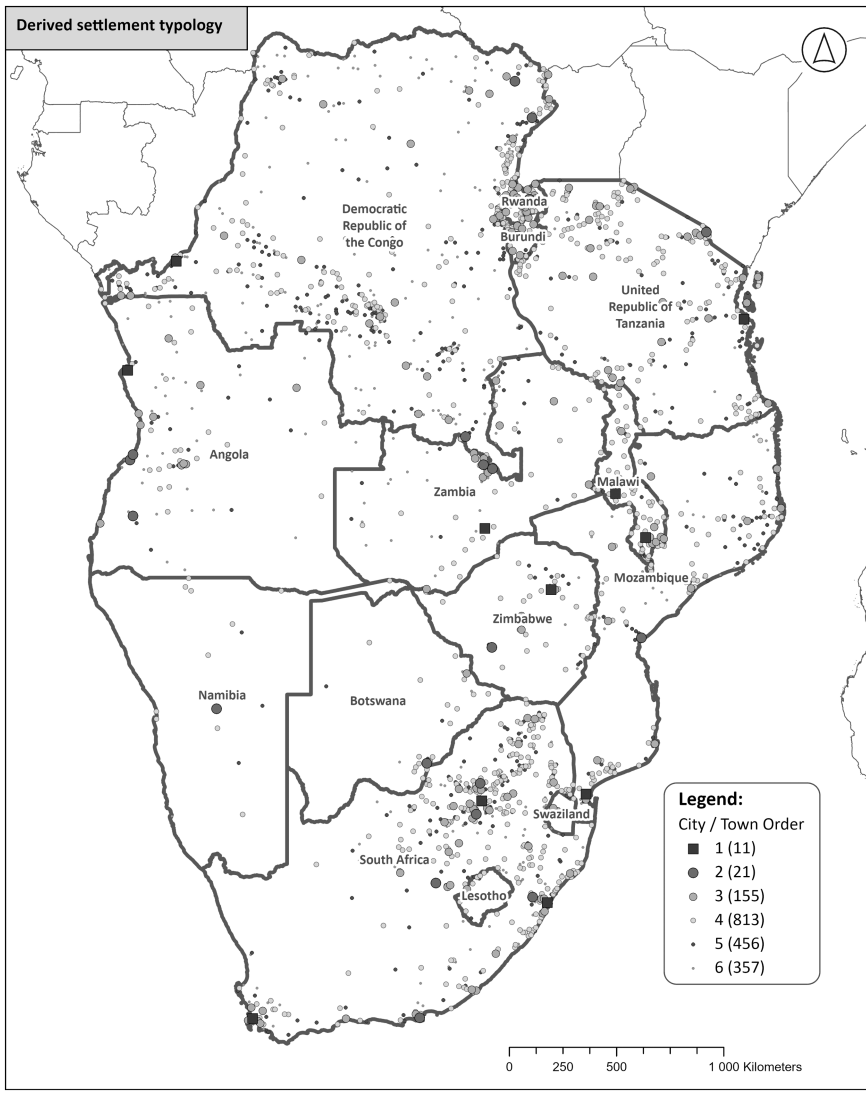

Figure 6.4 Settlement typology for the Africa SADC region (not including island nations)

by similarly populous settlements. Figure 6.5 visualises these population hotspots, emphasising only the most significant regional settlement clusters.

When overlaying the primary road and rail networks with these settlement clusters, certain infrastructure gaps become evident. Although various road categories exist, the emphasis here remains on the principal road network, which is notably underdeveloped in countries like Angola and the DRC.

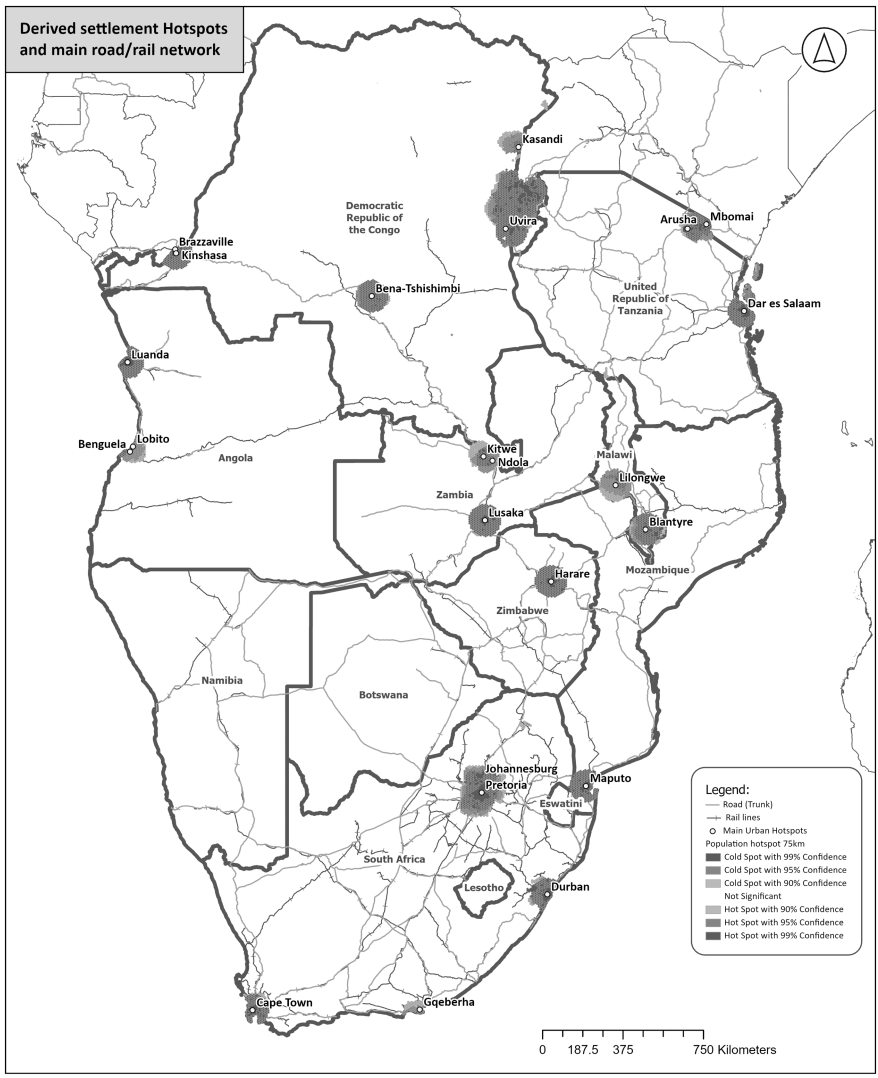

Figure 6.5 Main population centres based on hotspot analysis

6.5 Conclusion

It is evident that developing an integrated urban/settlement profile and/or categorisation for the SADC region has several benefits:

- It enables the comparison of different urban and settlement areas within the SADC region, which is crucial for policy-making and development planning.

- It supports understanding the unique characteristics of different urban and settlement areas and will help tailor policies and interventions specific to each area.
- An integrated typology or categorisation aids in the collection and analysis of data, which is essential for evidence-based decision-making.
- It can foster cooperation and collaboration amongst various stakeholders, including governments, non-governmental organisations, and the private sector, to address common challenges. Spatial and regional comparisons are also critical for understanding and managing shared hazards, particularly given the transboundary nature of some hazards in the SADC region.

This chapter accentuates the criticality of developing a cohesive regional settlement profile for the SADC. Such a profile fosters a shared comprehension of the distribution of people, infrastructure, economy, and vulnerabilities within the SADC. This understanding is pivotal for crafting and executing efficacious regional development policies and strategies, and guiding investments. The potential to replicate and refine the typology baseline exists, but integrating more detailed economic data can substantially elevate its precision and validity. Exploring interconnections between urban areas, towns, and settlements and discerning their interdependencies can spotlight gaps in regional functionality. On a regional canvas, a settlement typology facilitates cross-country comparisons, enriching the strategic planning process for the SADC region.

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7 The role of infrastructure in regional trade in the SADC region

Verena Tandrayen–Ragoobur

7.1 Introduction

With 15 nations, including large countries, small and isolated economies, and island states, the Southern African Development Community (SADC) has recorded over the recent years important milestones and achievements in different domains, namely institutional, social, economic, and peace and security. In particular, the SADC's Regional Indicative Strategic Development Plan 2020–2030 in line with the UN 2030 Agenda for Sustainable Development and the African Union's Agenda 2063 aimed at achieving inclusive and sustainable development across all SADC countries via deeper and enhanced regional integration. Deepening regional integration in the region raises the potential for higher growth and development for member nations. The greater the level of integration across SADC countries, the higher the market size will be, along with greater trading and investment opportunities and the improvement of resource allocation across countries (Fall & Gasealahwe, 2017).

Sustainable Development Goal (SDG) 9 focuses on the role of infrastructure to promote inclusive and sustainable development. In particular, SDG 9.1 emphasises the importance of developing regional and international infrastructure to achieve this objective. Regional integration can be promoted via efficient, cost-effective, and integrated cross-border infrastructure networks and services. Infrastructural development englobes regional transport and communications systems and adequate energy, water, meteorology, and sanitation infrastructures. Good infrastructural development is a predominant channel in boosting regional trade and in promoting economic development. Both hard and soft infrastructures are key in facilitating the movement of goods, services, and people across countries within the SADC region. While the region has made significant progress in regional infrastructural development, it still faces an important infrastructure deficit. This infrastructure gap is characterised by expensive and unpredictable transport and logistic services, in particular for landlocked countries and small and remote states; lack of low-cost access to information and communication technologies; insufficient energy supply; inadequate water supply, sanitation, and reticulation systems; and inadequate and expensive broadband networks. Small islands,

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in particular, due to their geographical position, face greater disadvantages in terms of connectivity and water and energy infrastructure. SADC member states thus suffer from an important infrastructure deficit like the rest of the African region.

The poor state of infrastructure poses a significant impediment to the development pathway of countries. The infrastructure gap remains big in Africa and in the SADC region (SADC, 2021). The African Development Bank estimates that the continent's infrastructure needs (including those of SADC) are between $130 and 170 billion a year, with an annual financing gap of $68 to 108 billion (SADC, 2020). According to World Bank (2023), African infrastructure constrains economic growth by 2 percent every year and cuts productivity by as much as 40 percent. It is also postulated that the poor quality of the region's roads and rail and port infrastructure increases the costs of intra-African trade by some 30 to 40 percent (Infrastructure Consortium of Africa, 2022). Adequate funding for infrastructural development is crucial to ensure sustainable economic growth through intra-African and international trade that will help to improve the welfare of the African population. Infrastructural development and regional trade are also key elements of SADC's agenda for promoting economic growth, job creation, and poverty reduction in the Southern African region. Through these efforts, SADC aims to enhance the competitiveness of its member states, promote regional integration, and foster sustainable development.

The existing empirical work on the infrastructure and trade nexus has focussed primarily on the African region as a whole. For instance, Tandrayen-Ragoobur et al. (2023) examine the impact of infrastructure on bilateral trade flows across 51 African countries over the period 2003 to 2015. While their results show that both soft and hard infrastructures matter for trade on the continent, soft infrastructures matter most with a greater impact of efficient trade facilitation measures in terms of streamlining trading rules and procedures on intra-African trade. There is a complementary relationship between soft and hard infrastructures in boosting trade across African countries. In contrast, Ibrahim et al. (2022) focus on the effects of services trade on development infrastructure across 38 African countries from 2000 to 2020. Adopting the directional causal link from trade to infrastructure, they note that trade in services promotes the development of infrastructure in the region. There is also evidence that urbanisation increases telecommunication infrastructure and reduces trade or transport-related infrastructure. Another study by Jiya et al. (2020) investigates the effect of economic infrastructure and trade openness on the manufacturing and services sector across 14 COMESA member countries from 1993 to 2016. There is evidence of a significant long-run dampening effect of trade openness on the link between economic infrastructure and manufacturing output and between economic infrastructure and service output. The study recommends higher and targeted investment in energy infrastructure and telecommunication systems for countries in the COMESA region to benefit from trade liberalisation.

Evidence on the infrastructure and trade link for the SADC region has been quite scant and many studies have been focusing on a few countries. One study by Afreximbank (2021) analyses the trade-carrying infrastructure gaps along the main transport corridors in the SADC region namely six key transit markets of landlocked Botswana, Democratic Republic of the Congo (DRC), Eswatini, Malawi, Zambia, and Zimbabwe, and the regions in South Africa. The analysis ranks the importance of each corridor in increasing future intra-African trade by assessing the condition, capacity, and competitiveness of transport logistics in terms of border posts, seaports, railways, and roads. Their findings show that in 2017, maritime states consisted of 91 percent of all SADC trade flows, while landlocked states comprised only 5 percent and island states covered just 3 percent. By 2040, it is projected that the share of landlocked states will increase to 8 percent, while that of island states will remain at 3 percent and maritime states will consist of 89 percent of all trade flows. This chapter builds on the scant evidence on the SADC region by analysing the linkage between regional infrastructure and trade within the SADC region with a distinct focus on island nations. The study first undertakes a hard and soft infrastructure diagnostic of the region and probes into the challenges that exist in member nations in terms of infrastructural development. The main components of the infrastructure are analysed using different indicators that are computed from varied databases. Second, the chapter assesses intra-trade in the SADC region and compares trade performance across member states, differentiating between island nations and other countries, namely landlocked territories. The link between regional infrastructure and regional trade in the SADC area is next analysed. The methodology rests on the use of secondary data from different sources namely data on infrastructure from the World Bank Development Indicators (2022) and the trade statistics from the International Trade Centre (2023). Different indicators are computed to assess the trade potential within the region and the linkage between infrastructure development and trade is further analysed.

The chapter is structured as follows: Section 7.2 reviews the literature on infrastructural development and trade, while Section 7.3 sets out the data and methodology used. Section 7.4 analyses both hard and soft infrastructure in the SADC region. Section 7.5 assesses the regional trade within the SADC region, compares intra-SADC trade to other regional trading groups, and links up the level of intra-SADC trade with infrastructural development in the region. Section 7.6 concludes with relevant policy implications.

7.2 Literature survey

There is extensive literature on the impact and importance of infrastructure in trade, and it tends to provide support to the idea that infrastructure is an important contributor to enhancing trade flows across countries (Sebastian & Steinbuks, 2017). Infrastructure can be viewed in terms of both hard and soft infrastructure (Portugal-Perez & Wilson, 2012; Brenton et al., 2014;

Jouanjean et al., 2015; Tandrayen-Ragoobur et al., 2022). Hard infrastructure relates to physical infrastructure that is transport networks in terms of roads, railways, airports, and ports; and energy, water, sanitation, and information and telecommunication systems. Soft infrastructure is linked to the business environment and trade facilitation measures such as customs regulations, time, cost, and documentation needed for export and import procedures, amongst others (Ismail & Mahyideen, 2015).

Infrastructure is seen as an important vehicle in connecting markets and promoting trade flows. It contributes positively to development by enabling countries to gain a comparative edge via trade (Rehman et al., 2020). Countries with good infrastructures perform well in international trade, while a lack of infrastructural network hinders trade flows (Portugal-Perez & Wilson, 2012; Donaubauer et al., 2018). Infrastructure development contributes positively to economic growth, development, and prosperity through a varied number of channels. Investments in infrastructure reduce transaction costs, increase the durability of goods, and foster trade and investment (Zheng et al., 2022). Infrastructure development further helps in expanding demand and supply and as such in achieving economies of scale and scope. Infrastructure is also beneficial to growth by increasing productivity gains and reducing adjustment costs for small firms. Infrastructure further facilitates trade and foreign direct investment, therefore expanding access to markets, which in turn increases the capacity of firms to supply larger markets and contributes to increased output and income. Higher income in turn improves the standard of living, expands education and health outcomes, and promotes economic inclusion. Though infrastructure is key in boosting the level of trade (Clark et al., 2004), its role in trade theories has very often been overlooked mainly because traditional trade theories assumed zero transportation costs and thus ignore the dominant role of infrastructure services in international trade (Djankov et al., 2010; Rehman et al., 2020). Subsequently, transport costs became the focus of new trade theories. This can be seen in the Samuelson model and in the advances of the new classical trade theory (Khider & Margoum, 2022). Melitz (2003) focuses on firm heterogeneity and trade patterns whereby only the most productive firms enter the international market due to fixed costs for exporting. Transport costs affect the fixed costs of exporting and as such influence the decision of the firm to participate in international trade. High transport costs limit the number of enterprises that will enter the export markets and thus limit trade flows across countries.

The empirical literature on infrastructural development, transport costs, and international trade is rather extensive and is largely based on gravity models. In addition, several indicators are used in the literature to measure infrastructural development in terms of soft and hard infrastructures. Further, different estimation methods are applied to assess the impact of infrastructure on trade. Recent empirical studies have emphasised the distinction between 'hard' and 'soft' infrastructures when analysing the

infrastructure-trade linkage (Behar and Venables, 2011; Brenton et al., 2014; Jouanjean et al., 2015; Ochieng et al., 2020; Tandrayen-Ragoobur et al., 2022). With respect to hard infrastructure, Limao and Venables (2001) estimate that poor infrastructure accounts for 40 percent of predicted transport costs for coastal countries and up to 60 percent for landlocked nations. Brun et al. (2005) further assess the impact of the quality of physical infrastructure measured by the quality of rail, roads, telecommunications, ports, and airports on trade, and observe that all measures are important with ports having the biggest impact on trade. Hoekman and Nicita (2008) also note that a 10 percent reduction in transport costs increases trade by 6 percent, whereas a 10 percent rise in infrastructural investment promotes exports by 5 percent in developing countries. Studies on the infrastructure-trade nexus for the African continent have shown the importance of hard infrastructure in boosting trade. For instance, Coulibaly and Fontagné (2006) estimate the elasticity of the trade performance to infrastructure endowments in seven West African Economic and Monetary Union (WAEMU) nations and observe that trade flows in this region would have been 3.2 times higher if all the interstate roads were paved. The maintenance and upgrading of road networks were further found to expand intra-African trade by 18 percent annually (Buys et al., 2010). Carrere (2013) focussed on WAEMU and the Central African Economic and Monetary Community (CEMAC) when analysing the infrastructure-trade linkage and found that the harmonisation of infrastructural development amongst trade partners leads to large increases in exports in both regional groups. In addition to transport infrastructure, another dimension of infrastructural development in terms of telecommunication infrastructures has been analysed in explaining the African trade (Fink et al., 2002). Longo and Sekkat (2014), for instance, estimate that a 1 percent increase in the stock of telecommunication and transport infrastructure in the exporting country promotes exports to other African countries by 3 percent. Similarly, Bankole et al. (2015) observed that the telecommunication infrastructures in terms of fixed telephony, mobile telephony, and internet use have a positive impact on intra-African trade. Weak communication links, low connectivity, and high telecommunication costs represent important hindrances to trade across African countries.

Although hard infrastructures are crucial for trade and in particular for intra-African trade, the evidence also shows the need to address bottlenecks in soft infrastructure which hinder trade flows across the continent. In terms of assessing the impact of soft infrastructures on trade, Anderson and Marcoullier (2002) found that bilateral trade volumes are positively influenced by the trading partners' institutional quality. Nunn (2007) in turn focuses on a particular aspect of institutions which is the enforcement of contracts. The results show that imperfect enforcement of contracts reduces the volume of goods. The institutions-trade nexus is further supported by Do and Levchenko (2004) and De Groot et al. (2004), who argue that differences in institutional quality and the quality of governance are important

determinants of trade patterns. Depken and Sonora (2005) measure institutional quality in terms of economic freedom and note that better institutional quality in the partner country has a positive effect on the amount of exports from the US to that particular nation. Further, higher institutional transparency is also found to have an important effect on the trading environment in the Asia-Pacific region (Helbe et al., 2007). Yu (2010) uses a measure of democracy to measure soft infrastructure, and their findings indicate that democratisation significantly increases trade, contributing to around 3 to 4 percent growth in bilateral trade flows. Logistics, customs procedures and clearance, documentation, and transit time are important complementary elements to hard infrastructural development. For instance, Hoekman and Nicita (2011) and Brenton et al. (2014) observe that logistics quality is crucial, as poor logistics across countries impede market integration and trade within a region. Likewise, Iwanow and Kirkpatrick (2007) underline the specific role of customs procedures (trade facilitation) in improving intra-African trade. Freund and Rocha (2011) and Dennis and Shepherd (2011) stated that a reduction in trade costs and domestic delays through trade facilitation promoted export diversification.

The existing empirical work further advocates the need to address both soft and hard infrastructures when probing into the infrastructural development and trade relationship (Portugal-Perez & Wilson, 2012; Rehman et al., 2020). It is postulated that soft infrastructure maximises the benefits of investments in hard infrastructure in promoting trade (Hoekman & Nicita, 2011). In essence, Ochieng et al. (2020) investigate the impact of ICT and transport infrastructures as well as quality institutions on bilateral exports between 11 countries within the East African region. They note a positive linkage between exports and the combination of both soft and hard infrastructures. Similarly, Tandrayen-Ragoobur et al. (2023) examine the impact of both soft and hard infrastructure on bilateral trade flows across 51 African countries. Their findings indicate the importance of both soft and hard infrastructures in enhancing trade on the continent. However, soft infrastructures matter most with a greater impact of efficient trade facilitation measures, but they complement hard infrastructures and help in increasing intra-African trade. Although there is a general consensus on the positive contribution of infrastructure investments in fostering trade, existing evidence on the effects of both soft and hard infrastructures is scant (Tandrayen-Ragoobur et al., 2023) and more so for the SADC region.

7.3 Methodological approach

The chapter uses secondary data from different sources namely World Development Indicators (World Bank, 2023), the African Development Bank database (2023), and the United Nations World Integrated Trade Solution (WITS, 2023). Two important indicators are used to probe into the infrastructure and trade dimensions in the SADC region. The African

Infrastructure Development Index (AIDI) and the Logistic Performance Index (LPI) measure the level of infrastructural development while regional integration is proxied by the African Regional Integration Index (ARII).

The AIDI is a weighted average of nine indicators covering four dimensions of infrastructure namely electricity, ICT, transport and water, and sanitation. The electricity index is modelled by the net generation (kWh per inhabitant) while the ICT composite index is calculated by a combination of indicators. These are total phone subscriptions per 100 inhabitants (including fixed-line telephone and mobile cellular subscriptions), number of internet users per 100 inhabitants, fixed (wired) broadband internet subscribers per 100 inhabitants, and international internet bandwidth. Transport is determined by a mix of indicators in terms of total paved roads in km per 10,000 inhabitants, total road surface (both paved and non-paved), and exploitable land area. The last component is water and sanitation which is evaluated via two indicators, improved water source (percentage of population with access) and improved sanitation facilities (percentage of population with access). The indicators are computed by subregion as a weighted average of the normalised components of the countries within the subregion. The weighting variables selected are population size for electricity, water, sanitation, and ICT subscriptions (phone and internet), while for paved roads, road network size is used (African Development Bank, 2023). The LPI complements the AIDI by measuring soft infrastructure in terms of six major dimensions, i.e., customs and border management, ability to track and trace, logistics services quality, trade and transport-related infrastructure, availability of competitively priced international shipments, and timeliness of shipments. The PCA is also applied in this case to generate the composite index ranging from 1 (very low logistics performance) to 5 (very high performance).

The study uses the ARII to measure regional integration in SADC. It covers five dimensions, namely trade integration, productive integration, macroeconomic integration, infrastructure, and free movement of people, measured by 16 indicators. Trade integration is computed by using five indicators: average tariff on imports, the share of intra-regional imports as a share of GDP, the share of intra-regional exports over GDP, the share of intra-regional trade, and the AfCFTA. Productive integration probes into intra-regional intermediate exports and imports as a share of GDP as well as merchandise trade complementarity index. Macroeconomic integration is captured by the number of bilateral investment treaties, regional inflation differential, and regional convertibility of the currency, while infrastructure integration is the AIDI and the proportion of intra-regional flight connections. The last indicator is the free movement of people modelled by the number of countries where travellers can obtain a visa upon arrival and those nations where there is a visa requirement as well as the Kigali Free Movement of Persons Protocol. The Principal Component Analysis is applied to derive the composite ARII. However, all the dimensions as per the Abuja Treaty are not captured in the measurement of the ARII. In essence, in 2020, the African

Multidimensional Regional Integration Index (ARMII) was launched by the African Union to cover emerging areas like migration and the environment in line with Agenda 2063 (African Union Commission, 2020). AMRII consists of eight dimensions and 33 indicators. The pillars are split into the free movement of persons, environmental integration, financial integration, infrastructure integration, political and institution integration, monetary integration, social integration, and trade integration.

7.4 Infrastructural development in SADC

Under the SADC's Regional Indicative Strategic Development Plan 2020–2030, one priority area encompasses the development of cost-effective and efficient transnational infrastructural development to promote regional integration and economic development, which can help in the alleviation of poverty in the region. Over the years, there has been a greater involvement of the private sector in regional integration and as such the need to modernise and harmonised regulatory frameworks, policies, and strategies for the development of efficient and technology-driven cross-border infrastructure services, enhanced integrated infrastructure, and networks to support and facilitate deeper regional integration.

There have been significant improvements over the past decades in the development of key infrastructure such as rail and ports, road networks, ICT and telecommunications, access to energy, water, and sanitation, to name a few. From 1995 to 2005, improvements in infrastructure boosted growth in SADC by 1.2 percent per capita per year (World Bank, 2010). This has been attributed mainly to mobile telephony. It was also estimated that if infrastructural developments matched those of Mauritius, this would increase SADC's overall growth performance by 3 percent. Infrastructure development in the SADC region is analysed using the AIDI (African Development Bank, 2023) and the Logistics Performance Index (World Bank, 2023).

7.4.1 Hard infrastructures in the SADC region

The AIDI is a weighted average of nine indicators measuring four dimensions of infrastructure, namely electricity, ICT, transport, and water and sanitation. The AIDI focuses mainly on hard infrastructure rather than soft infrastructure. The AIDI values for all 16 SADC countries and the average for the SADC region from 2005 to 2022 are shown in Table 7.1.

The figures show that Seychelles (98.88), South Africa (81.67), and Mauritius (81.44) are the top three countries with the highest AIDI value in 2022. Mauritius and Seychelles, being island nations, have relatively higher infrastructure development compared to many countries within the SADC region. Several factors can contribute to this outperformance, namely the fact that both have relatively stable economies and sustained economic growth over the past decades. This economic, political, and social stability has allowed significant investment in infrastructural development. In

Table 7.1 The Africa Infrastructure Development Index (AIDI) from 2005–2022 for SADC countries

Country	*2005*	*2008*	*2011*	*2014*	*2017*	*2020*	*2021*	*2022*
Angola	7.96	9.41	12.58	16.39	17.48	20.07	20.20	20.65
Botswana	28.45	28.98	31.89	34.76	36.61	37.50	37.90	39.02
Comoros	18.49	19.57	20.26	21.64	22.15	24.13	24.40	25.09
DRC	4.27	5.06	6.46	7.57	8.17	8.64	9.34	9.69
Lesotho	13.16	13.75	14.40	15.46	15.68	16.33	19.10	19.90
Madagascar	3.46	4.09	5.79	7.47	8.47	11.29	11.45	11.89
Malawi	12.24	13.32	14.81	17.14	18.44	21.79	21.92	22.84
Mauritius	44.51	48.75	58.92	71.21	75.49	79.12	79.87	80.44
Mozambique	6.84	7.48	8.95	11.20	12.30	12.60	12.62	13.68
Namibia	24.70	26.29	28.88	28.27	28.64	29.98	30.11	30.53
Seychelles	50.86	63.54	73.82	89.57	94.11	96.73	98.45	**98.88**
South Africa	46.78	51.70	55.96	73.81	79.63	79.34	80.19	**81.67**
eSwatini	14.78	16.32	19.34	23.40	25.43	28.21	28.42	29.12
Tanzania	5.27	6.40	8.42	11.12	12.24	14.89	15.28	16.22
Zambia	15.03	16.31	18.07	20.87	22.12	23.97	25.05	26.04
Zimbabwe	20.15	21.85	21.81	23.86	24.43	25.54	26.23	26.65
Mean-SADC	**19.90**	**22.22**	**25.34**	**30.14**	**31.95**	**33.73**	**34.41**	**34.52**

Source: Compilation and computation from the African Development Bank Database (AfDB, 2023)

addition, both island nations have shown effective, efficient, and transparent governance and strategic planning in their development initiatives. Good institutions and governance have helped in the adequate use of resources and smoother implementation of projects. Mauritius and Seychelles have also actively sought international partnerships and foreign investment. Mauritius, for instance, has been actively seeking the support of India and China. These partnerships have brought in expertise, technology, and funding for infrastructure projects. Moreover, both island nations have been very active in promoting sustainable development practices including projects in waste management, renewable energy, and environmentally friendly infrastructure projects. The geographical locations of Mauritius and Seychelles make them well-positioned for international trade and connectivity. This has encouraged investments in transportation infrastructure. Both islands have recognised the role of infrastructure in stimulating economic growth. Improved transportation networks, communication systems, and utilities attract businesses and have helped create jobs and enhance overall economic activity in both countries.

In contrast, countries with low AIDI are Mozambique (13.68), Madagascar (11.89), and the DRC (9.69). The latter has been facing the most daunting infrastructure challenge on the African continent due to conflicts that have seriously damaged its infrastructure. Its vast geography, low population density, extensive forestlands, and crisscrossing rivers make the development of new networks in DRC more complicated (. In the case of Mozambique, the

country is progressing steadily after two decades of debilitating civil war. It faces an important infrastructure deficit, but there has been a drive from government and development partners to improve infrastructure investment planning that allows for a maximisation of benefits from investments. Similarly, Madagascar has accumulated a significant capital shortfall by regional standards due to poor economic management and political instability, which have impacted infrastructural development. Madagascar, being an island nation, has over the years faced economic challenges, including periods of political instability, corruption, and mismanagement. These factors have hindered the allocation of resources towards long-term infrastructure development projects. Unlike Seychelles and Mauritius, Madagascar is a larger country with a more diverse geography. Its size and resource distribution make it more challenging to develop and maintain infrastructure across the entire country. The average index for the SADC seems to have improved from 19.9 in 2005 to 34.52 in 2022, showing that infrastructural improvement has taken place across most SADC countries. It is however important to analyse in which sector infrastructural development has taken place. The AIDI is further split to analyse where SADC countries stand in terms of infrastructural development in transport, ICT, electricity, and water and sanitation (see Table 7.2).

The data compares the four dimensions of the AIDI in 2005 and 2022. One noticeable improvement over the years has been in ICT and telecommunications. The ICT index for all SADC countries has progressed from zero in many cases to more than 50. In 2022, Seychelles tops up the list with an index value of 55.60 followed by Mauritius with a value of 50.84, while both islands had an average value of only 0.023 in 2005. Seychelles and Mauritius have recognised the importance of ICT for economic growth, service delivery, and social development. Their efforts to establish advanced ICT infrastructure and promote digital literacy have contributed to their reputation as countries with well-developed ICT sectors in the region. Botswana and South Africa have also made significant progress over the period. Many SADC member states have established cross-border transmission links using fibre technology. In addition, countries like South Africa, Botswana, and Tanzania for instance, have already achieved the 2025 SADC broadband target of providing 80 percent of the population with access to broadband services (SADC, 2020). Regional infrastructure is important across SADC countries, as regional optic fibre links have allowed to connect landlocked countries within the region. In terms of energy, the electricity composite index has also improved with significant progress being noted for countries like Seychelles, Mauritius, Botswana, and Eswatini. Island nations like Seychelles and Mauritius have high rates of electricity access, as they are relatively small countries with concentrated populations, which in essence make it easier compared to larger and more geographically dispersed nations. In fact, the SADC Regional Energy Access and Strategic Action Plan 2010–2020 has encouraged member states to embrace universal energy access and to halve the number of people without access to energy by 2020 (SADC, 2020). There

Table 7.2 Different dimensions of the AIDI in 2005 and 2021 for SADC

	Transport composite index	*Electricity composite index*	*ICT composite index*	*WSS composite index*	*Transport composite index*	*Electricity composite index*	*ICT composite index*	*WSS composite index*
	2005				*2021*			
Angola	2.49	1.64	0.001	46.01	4.41	5.81	12.82	61.43
Botswana	25.79	8.18	0.007	78.64	25.28	20.20	31.30	91.60
Comoros	17.42	0.85	0.001	61.20	14.66	1.52	8.73	72.07
DRC	1.83	1.93	0.000	34.77	1.48	2.12	6.89	40.44
Lesotho	7.75	2.52	0.002	44.49	7.27	4.29	16.88	72.89
Madagascar	3.58	0.72	0.001	14.55	2.87	1.57	6.28	35.81
Malawi	6.24	1.78	0.000	45.46	3.73	2.51	8.09	67.94
Mauritius	37.15	27.01	0.022	98.56	36.62	42.96	50.84	99.80
Mozambique	2.19	11.24	0.001	7.68	2.05	9.70	8.55	52.30
Namibia	25.10	12.82	0.004	58.62	17.34	10.45	21.38	71.53
Seychelles	36.31	40.61	0.024	93.17	51.68	84.47	55.60	97.58
South Africa	13.74	73.22	0.023	79.87	22.30	76.73	35.32	93.98
eSwatini	9.24	4.54	0.003	57.65	13.08	13.94	16.53	78.31
Tanzania	3.29	1.28	0.001	13.25	3.34	2.09	13.86	56.75
Zambia	8.82	12.34	0.001	35.19	6.64	12.52	14.27	56.23
Zimbabwe	13.22	11.93	0.007	68.10	12.09	9.14	16.13	67.30

Source: Compilation and computation from the African Development Bank Database (AfDB, 2023)

has also been increased emphasis on affordable and clean energy (SDG 7) with various initiatives to ensure universal access to reliable, convenient, affordable, and safe electricity.

With regards to the transport composite index, it is still on the low side for many countries, and many nations have even seen a decline in the value of the index, apart from Seychelles, South Africa, Eswatini, and Tanzania. However, there have been developments regionally in terms of three main corridors, namely the North-South Corridor running north from Durban, South Africa; the Maputo Corridor running through Mozambique, and the Dar es Salaam Corridor in Tanzania (SADC, 2020). Similarly, the establishment of One-Stop Border Posts (OSBP) at the Chirundu border between Zambia and Zimbabwe and the Nakonde-Tunduma border between Tanzania and Zambia have helped in reducing transaction costs for crossing borders. There remain still many challenges like financial and technical constraints for maintaining and rehabilitating the region's roads, railways, ports, and airports. Seychelles and Mauritius' smaller geographic areas make it more manageable for them to develop and maintain transport networks compared to larger mainland countries. Owing to their dependence on tourism and international trade, both countries have established strong air and sea connections with various destinations, facilitating the movement of passengers and goods. The governments of Mauritius and Seychelles have prioritised the maintenance of their transport infrastructure, leading to better longevity and functionality.

In contrast, the water and sanitation composite index has improved significantly across all SADC countries, with Mauritius having the highest score of 99.80 followed by Seychelles (97.58), South Africa (93.98), and Botswana (91.60). There has been important development in transboundary water supply and sanitation infrastructure. For instance, four transboundary water supply and sanitation projects are underway: the Kunene (Angola and Zambia) and Lomahasha/Namaacha (Eswatini and Mozambique) water projects, as well as the Chirundu Cross-Border Water Supply and Sanitation (Zambia and Zimbabwe) and Kazungula Water Supply and Sanitation Project (Zambia). In addition, islands like Mauritius and Seychelles have limited freshwater resources, and there has been a great emphasis on efficient water management and conservation efforts. Hence, investment in water and sanitation has been a priority for the authorities. Likewise, island states tend to be highly vulnerable to public health risks so the authorities have been prioritising safe water and sanitation systems to prevent waterborne diseases.

7.4.2 Soft Infrastructures in the SADC region

In addition to hard infrastructures, soft infrastructural development plays a key role in boosting regional trade. Soft infrastructure is measured by the Logistics Performance Index, which is based on various factors such as infrastructure, customs efficiency, ease of arranging shipments, quality of logistics services, tracking and tracing capabilities, and timeliness. Table 7.3 computes

Table 7.3 Soft infrastructures in the SADC region from 2010 to 2022

Logistics performance index	*2010*	*2012*	*2014*	*2016*	*2018*	*2022*
Ability to track and trace consignments (1=low to 5=high)	2.602	2.584	2.588	2.576	2.577	2.589
Competence and quality of logistics services (1=low to 5=high)	2.561	2.560	2.568	2.565	2.563	2.568
Ease of arranging competitively priced shipments (1=low to 5=high)	2.602	2.605	2.605	2.592	2.587	2.592
Efficiency of customs clearance process (1=low to 5=high)	2.427	2.431	2.423	2.417	2.420	2.431
Frequency with which shipments reach consignee within scheduled or expected time (1=low to 5=high)	2.978	2.978	2.984	2.968	2.965	2.969
Quality of trade and transport-related infrastructure (1=low to 5=high)	_	2.445	2.441	2.443	2.437	2.447
Overall (1=low to 5=high)	2.607	2.606	2.607	2.599	2.597	2.604

Source: Compilation and computation from the World Development Indicators (World Bank, 2023)

the average Logistics Performance Index from 2010 to 2022 for the SADC region. It can be observed that the overall index declined from 2.607 in 2010 to 2.604 in 2022. This can be attributed to several factors, namely important infrastructure deficiencies, including inadequate road networks, ports, airports, and railways. Poor infrastructure can lead to delays, increased transportation costs, and inefficiencies in the movement of goods. In addition, many Southern African countries are characterised by lengthy and complicated customs procedures that hinder the smooth flow of goods across borders. Delays in customs clearance lead to increased costs and unpredictability in supply chains. This is supported by the index whereby the efficiency of the customs clearance process has the lowest values over the years. Cumbersome regulatory processes and administrative red tape further slow down logistics operations and increase transaction costs for businesses. Another factor is the lack of access to technology and information such as tracking and tracing systems or electronic documentation that hinders logistics efficiency.

7.5 Intra-regional trade in Africa and the SADC

The study first compares the degree of regional integration across different Regional Economic Communities (RECs) across the African continent. The Africa Multidimensional Regional Integration Index (AMRII) is used (see Table 7.4). The value of the AMRII based on the arithmetic mean methodology of the scores in the eight dimensions is on a scale of 0 to 1. The score for the integration process across Africa is 0.62. Amongst the RECs, the

Table 7.4 Africa Multidimensional Regional Integration Index (AMRII), 2021 across Regional Economic Communities (RECs)

	Overall index – AMRII	*Free movement of persons*	*Social integration*	*Trade integration*	*Financial integration*	*Monetary integration*	*Infrastructure integration*	*Environmental integration*	*Political and institutional integration*
AMU	0.52	0.62	0.48	0.51	0.44	0.56	0.58	0.47	0.52
CENSAD	0.54	0.53	0.41	0.50	0.51	0.62	0.66	0.51	0.55
COMESA	0.68	0.67	0.60	0.79	0.73	0.60	0.66	0.62	0.73
EAC	0.73	0.96	0.79	0.85	0.66	0.65	0.70	0.58	0.77
ECCAS	0.62	0.62	0.58	0.64	0.55	0.58	0.62	0.75	0.6
ECOWAS	0.74	1.00	0.79	0.84	0.60	0.56	0.53	0.67	0.93
IGAD	0.53	0.56	0.42	0.49	0.46	0.63	0.61	0.65	0.53
SADC	0.61	0.58	0.59	0.67	0.81	0.65	0.70	0.67	0.46
Mean for all African RECs	0.62	0.68	0.57	0.66	0.60	0.61	0.63	0.60	0.64

Source: Compilation and computation from the African Integration Report 2021 (African Union Commission, 2022)
where AMU – Arab Maghreb Union (Union du Maghreb Arabe); CENSAD – Community of Sahel-Saharan States (Communauté des États Sahélo-Sahariens); COMESA – Common Market for Eastern and Southern Africa; EAC – East African Community; ECCAS – Economic Community of Central African States (Communauté Économique des États de l'Afrique Centrale); ECOWAS – Economic Community of West African States (Communauté Économique des États de l'Afrique de l'Ouest), and IGAD – Intergovernmental Authority on Development.

average score across all eight pillars varies from the highest value of 0.74 for ECOWAS to the lowest score of 0.52 for AMU. The scores reflect the efforts made by each of the RECs, and it can be observed that ECOWAS fares well in three dimensions, which are the free movement of persons (AMRII has a value of 1), political and institutional integration (score of 0.93), and social integration (0.79). SADC does well compared to other RECs in financial integration (0.81), monetary integration (0.65), and infrastructure integration (0.70). SADC has, however, achieved less in terms of free movement and social, institutional, and political integration, with scores below 0.60. In contrast, EAC performs relatively well in four pillars, namely trade integration (0.85), social integration (0.79), monetary integration (0.65), and infrastructure integration (0.70). ECOWAS, EAC, COMESA, and SADC seem to have been making considerable efforts, as all of their eight indices are above the average value of 0.5. Other RECs lagging behind are IGAD, CENSAD, and AMU. When RECs do not have defined plans or programmes in some dimensions of regional integration like free movement of persons and financial and monetary integration, this may negatively affect their overall performance and ability to integrate deeper within the continent (African Union Commission 2020,). At the regional infrastructural level, SADC and EAC outperform the other RECs with a score of 0.70, followed by COMESA and CENSAD. However, infrastructure remains a problem for many groups and for the continent as a whole, as the current level of infrastructural development fails to support effectively the integration process. Financial constraints in funding infrastructural projects, poor quality of current infrastructures in different parts of Africa, and the slow progress made in the implementation of regional infrastructural projects are some of the key factors that explain the low levels of infrastructural integration (AUC-UNECA, 2022).

Probing further into the different dimensions across SADC member states, the study uses the ARII 2022 (African Union-UNECA, 2022).[1] The analysis further investigates the level of integration across SADC countries and the factors that hinder intra-trade within the region. SADC average score for regional integration stands at 0.35 with countries like Angola, Eswatini, Madagascar, Malawi, and Zambia having low scores below 0.3, showing that the level of integration is quite low amongst these countries within the region (see Table 7.5). The only country that stands out in this group is South Africa, with an overall regional integration index of 0.625. Apart from South Africa and Mauritius (score is 0.424), the score of the overall ARII for the remaining SADC countries is below 0.4, which shows low levels of regional integration. The overall score on regional integration tends to be pulled down by the index for regional infrastructure, which appears on the low side for most SADC countries. While South Africa performs well with an index of 0.898, Seychelles and Mauritius score far below with score values of 0.531 and 0.487, respectively. The bottom five performers are DRC, Eswatini, Lesotho, Madagascar, and Tanzania scoring near zero. It can be noted that the four islands in the SADC region do not perform well in both

Table 7.5 The different dimensions of the African Regional Integration Index for all SADC countries, 2021

	Overall score		*Scores and ranks by dimensions*									
Country	*Regional integration*	*R*	*Trade integration*	*R*	*Productive integration*	*R*	*Macroeconomic integration*	*R*	*Infrastructural integration*	*R*	*Free movement of people*	*R*
Angola	0.238	16	0.308	14	0.340	2	0.077	16	0.149	10	0.388	11
Botswana	0.302	11	0.496	6	0.245	5	0.342	9	0.242	6	0.105	13
Comoros	0.350	6	0.200	16	0.141	11	0.410	5	0.166	9	1.000	1
Eswatini	0.288	13	0.730	1	0.097	14	0.280	13	0.124	15	0.105	13
Madagascar	0.296	12	0.305	15	0.120	13	0.352	7	0.126	14	0.655	3
Malawi	0.282	15	0.369	10	0.174	9	0.219	14	0.148	11	0.580	5
Mauritius	0.424	2	0.348	12	0.169	10	0.633	1	0.487	3	0.426	9
Mozambique	0.380	5	0.411	9	0.239	6	0.320	10	0.141	12	0.944	2
Namibia	0.337	7	0.715	2	0.271	4	0.301	11	0.215	7	0.080	16
Lesotho	0.308	10	0.655	3	0.052	15	0.297	12	0.080	16	0.444	8
Rep. of the Congo	0.317	8	0.448	7	0.049	16	0.462	2	0.140	13	0.475	7
Seychelles	0.393	3	0.352	11	0.129	12	0.347	8	0.531	2	0.655	3
South Africa	**0.625**	1	0.627	4	1.000	1	0.423	3	0.898	1	0.093	15
Tanzania	0.312	9	0.323	13	0.205	8	0.422	4	0.197	8	0.420	10
Zambia	0.287	14	0.431	8	0.324	3	0.185	15	0.258	5	0.229	12
Zimbabwe	0.387	4	0.550	5	0.221	7	0.357	6	0.261	4	0.574	6

Source: Compilation and computation from the African Integration Regional Index Database (African Union Commission, 2022)

the trade integration and productive integration indicators, as they are geographically isolated from mainland countries. This physical separation can pose challenges to the efficient and cost-effective transportation of goods. Being smaller economies, they have limited scale of production and demand, influencing severely on the volume and scope of trade. Further, their economies depend primarily on sectors such as tourism, agriculture, and fishing. Trade diversification is not as extensive, limiting the range of products available for export or import.

Next, the Pearson correlation between the regional integration index and the trade integration index with the other dimensions including the infrastructure development pillar is calculated. This is depicted in Table 7.6. The Pearson correlation coefficient between ARII and infrastructural integration is as high as 0.836 and significant at 1 percent. This strong and statistically significant coefficient confirms the need for infrastructural integration to promote regional trade. The correlation coefficient is also positive and statistically significant between trade integration and infrastructural integration. The value stands at 0.252 and is significant at 5 percent. Infrastructure seems to play an important role in the SADC area, especially with respect to promoting trade flows in the region.

With respect to the other dimensions, productive integration as well as macroeconomic integration appear to be positively related to trade integration. Macroeconomic integration is generally pursued to enhance economic cooperation and efficiency amongst countries. It facilitates economic cooperation and promotes mutual benefits amongst member countries. By reducing

Table 7.6 Pearson Correlation Coefficient between regional trade integration and infrastructure integration for all SADC countries, 2021

	Productive integration	*Macroeconomic integration*	*Infrastructural integration*	*Free movement of people*
Overall ARII				
Pearson Correlation Coefficient	0.778	0.561	**0.836**	–0.067
T-Statistics	2.424**	–2.242**	3.254***	–2.359**
Trade Integration Index				
Pearson Correlation Coefficient	0.431	–0.118	**0.252**	-0.595
T-Statistics	1.836**	–1.220	2.015**	–1.65*

Source: Compilation and computation from the African Integration Regional Index Database (African Union Commission, 2022)

trade barriers, enhancing market access, and stimulating investment, it creates an environment that fosters trade integration and regional economic growth. Free movement of people, however, is negatively correlated to both the ARII and the trade integration index. The coefficient is statistically significant. In many SADC countries, free movement of people can lead to a situation of 'brain drain', where skilled workers and professionals are leaving their home countries for better opportunities abroad. This is likely to result in a loss of human capital and will have a negative impact on economic development and trade potential. Managing borders and ensuring security can become more challenging with the free movement of people. Striking a balance between facilitating movement for legitimate purposes and preventing illegal activities can be a complex task.

7.6 Conclusion and policy implications

The chapter analyses the regional infrastructural development in SADC and its linkage with regional trade integration within the region. Different indices are used to analyse the level of regional integration and the level of regional infrastructural development within the region. On one hand, infrastructural deficits in terms of inadequate hard and soft infrastructures are viewed as important challenges for SADC member states. On the other hand, intra-regional trade within the region remains low with countries trading more with non-SADC member states rather than regionally. While infrastructure gaps remain a significant challenge for SADC countries, the data reveals that island economies like Mauritius and Seychelles have performed relatively well in infrastructural development. They tend to outperform the other member states in terms of ICT infrastructure, access to electricity, water, and sanitation as well as transport infrastructure. This can be explained by a combination of factors in terms of their small size, concentrated population, good institutions, and governance along with a conducive macroeconomic environment coupled with political and social stability. Though being island states, Comoros and Madagascar tend to lag behind. Madagascar is more populated and larger in size. It has also been characterised by periods of political instability, corruption, and mismanagement. These factors have hindered the allocation of resources towards long-term infrastructure development projects. Similarly, Comoros has encountered coups and changes in leadership causing political turmoil, which has disrupted development plans, discouraged foreign investment, and created uncertainty for long-term projects.

While, our analysis shows a clear link between regional infrastructure and trade across SADC countries, a different picture emerges across island economies. Although islands like Seychelles and Mauritius surpass the other SADC countries in terms of infrastructural development, they tend to lag behind in trade integration and productive integration. Being isolated and far from mainland Africa, their geographical position may hinder their active

participation in trade and regional or global value chains. Cost of transportation and logistics, small market size, as well as their high dependence on trade and on a few economic sectors may constrain their ability to trade in the region.

While infrastructure plays an important role in fostering trade, greater investment in infrastructure projects is needed. This can be achieved through public and private sector funding, foreign direct investment (FDI), and regional development banks. Governments should prioritise infrastructure spending in their national budgets and explore innovative financing mechanisms to attract more investment. Encouraging public-private partnerships can help leverage private sector expertise and financing for infrastructure development. Governments should create an enabling environment for public-private partnerships, including clear regulatory frameworks and risk-sharing mechanisms, to attract private sector participation.

Moreover, improved coordination amongst SADC member states is crucial for efficient and effective infrastructure development. Regional infrastructure plans should be harmonised to ensure complementarity and to avoid duplication of efforts. Additionally, countries can pool resources for regional projects, leading to cost-sharing and increasing overall impact. In addition to new infrastructure projects, attention should be given to the maintenance and upkeep of existing infrastructure. Neglecting maintenance can lead to infrastructure deterioration and higher long-term costs. SADC member states can collaborate with international partners and development agencies to mobilise additional resources and technical expertise for infrastructure projects. Engaging with multilateral institutions can help secure concessional financing and access to global best practices. Lastly, SADC member states should undertake policy reforms to remove regulatory barriers and streamline approval processes for infrastructure projects. Creating a conducive business environment can attract more investment and expedite project implementation. By adopting a holistic approach and focusing on a regional policy approach, SADC member countries can make significant progress in addressing infrastructure deficits and achieving sustainable infrastructure development for the region's economic growth and prosperity.

Note

1 The AMRII is not available by country, hence the use of the ARII despite the fact that it covers only six dimensions.

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Part 3

Future perspective

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8 Influence of location on the competitiveness of SADC industries

Ewert P.J. Kleynhans and Gabriel Mhonyera

8.1 Introduction

In the economic and development space, location is essentially centred on the sustained ability of firms and industries to capture market share and grow the market through productivity improvements. The study of industrial location, in particular, concerns the spatial distribution of manufacturing activity. It shares this focus with industrial geography, and the terms have become virtually synonymous in academic usage and extant literature (Chapman, 2009). However, industrial location is sometimes distinguished from industrial geography by an explicit focus on the circumstances surrounding the choice of location for new factories rather than a broader concern with the multiple influences (e.g., factory closures) shaping the distribution of manufacturing. It is not a secret that each country, region, and town has unique characteristics that give that location some geographical advantage (Petersson, 2000). Hence, the phenomena of industrial location cannot be divorced or viewed as exclusive of the concept of industrial competitiveness.

Industrial competitiveness refers to the capability of firms within an industry to produce sustainably and trade leading to prosperity in the long term. Within this perspective, the United Nations Industrial Development Organization (UNIDO, 2020) view competitiveness as the ability to prosper in local and global markets, especially by supplying high-technology goods with high value added. Hence, firms and industries are competitive if the products they produce are in high demand in the market and consumers prefer their produce. This may be achieved if they can offer goods and services at a lower cost and better quality. Other aspects, such as innovation, marketing, advertising, packaging, and ease of use, may also contribute to consumers preferring certain products (Kleynhans, 2016).

As a consequence of globalisation and the advancements of technology ushered in, especially by the 3rd and 4th industrial revolutions, the general thinking about industrial location has assumed a space in which its significance has immensely diminished. In other words, the overall perception is that industrial location or geography does not matter anymore in the face of globalisation and the accompanying technological progress. This line of reasoning about industrial location or geography, however, is not harmonious

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with the empirical evidence (Porter, 1994). For instance, there are extant outstanding and tenacious variations in the economic and development performance of countries or regions, and of states and cities within countries or regions. Even the national origin of thriving global competitors also signifies the significance of the location.

Another manifestation of the importance of industrial location is the geographic concentration of leading firms or industries within nations, a phenomenon which was highlighted at least as far back as Marshall (1890) but which persists even in contemporary times. A striking example in the Southern African Development Community (SADC) region is South Africa, where the wine industry is concentrated in the Western Cape province, while the Gauteng province poses as the manufacturing hub of the country. Within this setting, the Western Cape is richly endowed with magnificent mountain ranges, forming the Cape Fold belt, which is tremendously significant for viticulture across the entire province, providing soils and the climatic conditions conducive to the production of world-class wines. Gauteng, on the other hand, is the largest industrial region in South Africa with manufacturing activities mainly concentrated in the City of Johannesburg and Ekurhuleni. The province enjoys copious amounts of resources both in natural and man-made forms; good transport networks that are well-interlinked with other provinces, seaports, and neighbouring countries; a large market for goods and services; and the availability of skilled, semi-skilled, and skilled labour.

Lastly, the importance of industrial location to industrial competitiveness is also manifested in the location decisions of multinational enterprises (MNEs). More important, however, is to distinguish between the types of activities located in different countries. International firms tend to concentrate their most sophisticated activities in the home country, or if not there, in a single other country. For instance, BMW's operations encompass the manufacturing of motor vehicles in 15 different countries, using a network of 31 production sites, where each plant produces unique vehicles for different markets. There are also various firms with operations involving many products, yet worldwide responsibility for each product line (including core manufacturing, research and development, and strategic decision-making) is concentrated in one particular location. Moreover, MNEs frequently relocate the headquarters of particular businesses from one nation to another.

It is important to realise that it is, in the first instance, firms that compete, not countries or regional groupings such as the SADC. However, when a country or region possesses a large number of competitive firms, it principally follows that the country or region may be regarded as competitive, and its economy will prosper. At national and regional levels, countries and regions have to increase the competitiveness of their economies to create employment, fight poverty, and create wealth for their citizens. In this regard, each distinct location has unique characteristics that can pose some degree of relative competitiveness that should be exploited to enhance the welfare of the people in each geographic location.

The emphasis in this chapter is placed on the industrial sector since it is generally accepted as an engine of inclusive economic growth and development. The sector creates jobs, as it increases the demand for labour and also possesses many linkages to other sectors. The associated industrial development develops the rest of a region or country. Industries additionally demand better-trained human capital, which leads to a more highly educated workforce, economies of scale, augmented technological development, and productivity. All this, in turn, promotes economic development and improves the welfare of the nation and its citizens. Again, the industrial sector ensures the structural transformation of a region, better infrastructure, inward investments, international trade, and foreign exchange receipts, which also delivers more wealth and better social development for the nation as a whole. The sector further ensures the availability of goods to consumers at reasonable prices (Yong, 2021).

It must be acknowledged that firms seek to maximise profits, a decision rule that is rigorously prescribed by the dynamics of capitalist competition. Hence, industrial location matters in the competitiveness of industries. Within this framework and given the significance of location in the competitiveness of industries and the investment decisions of firms, this chapter aims to enhance the understanding of the influence of location on the competitiveness of SADC industries. The chapter begins by giving an overview of selected macroeconomic indicators relating to location and competitiveness in SADC. This is followed by a comprehensive identification of locational factors influencing the competitiveness of industries within the SADC regional grouping. Lastly, a discussion framed in the context of the identified locational factors is provided, along with the implications for policy and further research, before concluding the chapter.

8.2 Location and competitiveness in SADC

Since attaining their independence and shifting towards embracing democratic governance practices, SADC countries had to undergo noticeable economic and political transitions. This meant the introduction of extra inclusive and wide-ranging macroeconomic stabilisation reforms, advancement towards an open free market economy, and the privatisation of a huge part of state-owned commercial assets, in some instances. All these transformation efforts were aimed at positioning the region as an attractive investment destination, thereby setting it up for its economic growth and development (SADC, 2023), regional integration, and industrialisation agenda that remains a long-term objective of the regional bloc. However, it is sensible to acknowledge that macroeconomic indicators have at all times played a significant role in shaping industrial location decisions and the enhancement of the competitiveness of firms within an industry. When a firm is contemplating investing in a particular location, it typically takes into consideration macroeconomic indicators in that locational environment. Such indicators include (see Table 8.1)

Table 8.1 Overview of selected macroeconomic indicators and variables of interest within the SADC region in selected periods

Country	*GDP growth (%)*	*FDI inflows (% of GDP)*	*Inflation (%)*	*GFCF (% of GDP)*	*Global Competitive Index score and ranking*				*Ease of Doing Business Index score and ranking*			
	2011–2021	*2011–2021*	*2011–2021*	*2011–2021*	*2011–2012*		*2017–2018*		*2011*		*2020*	
					S	*R*	*S*	*R*	*S*	*R*	*S*	*R*
Angola	1.2	–2.8	17.7	23.4	2.96	139	**	**	36.3	163	41.3	177
Botswana	3.6	1.4	4.6	27.4	4.05	80	4.3	63	63.5	52	66.2	87
Comoros	2.7	0.6	1.1	14.2	**	**	**	**	44.7	159	47.9	160
DRC	5.7	4.1	11.0	21.5	**	**	3.3	126	30.3	118	36.2	183
Eswatini	2.7	1.1	5.5	12.8	3.30	134	3.4	122	57.0	118	59.5	121
Lesotho	1.1	2.6	5.1	28.1	3.26	135	3.2	131	50.2	138	59.4	122
Madagascar	2.4	4.2	6.7	20.3	3.36	130	3.4	121	46.1	140	47.7	161
Malawi	3.7	3.4	15.9	**	3.58	117	3.1	132	49.8	133	60.9	109
Mauritius	2.0	3.0	3.0	19.0	4.31	54	4.5	45	73.7	20	81.5	13
Mozambique	4.6	25.9	6.6	28.5	3.31	133	2.9	136	54.3	126	55.0	138
Namibia	1.8	3.8	4.8	22.3	4.00	83	4.0	90	62.2	69	61.4	104
Seychelles	3.8	14.2	4.1	37.5	4.10	76	3.8	107	61.8	95	61.7	100
South Africa	1.2	1.9	5.0	16.6	4.34	50	4.3	61	68.4	32	67.0	84
Tanzania	5.7	2.6	6.6	36.6	3.56	120	3.7	113	55.1	128	54.5	141
Zambia	3.7	3.7	10.6	32.1	3.67	113	3.5	118	57.9	76	66.9	85
Zimbabwe	3.8	1.7	84.3	10.8	3.33	132	3.3	124	42.8	157	54.5	140
Total number of countries						142		137		183		190

Note: ** No data; DRC, Democratic Republic of Congo; EDB, Ease of Doing Business; FDI, Foreign Direct Investment; GFCF, Gross Fixed Capital Formation; GDP, Gross Domestic Product; R, ranking; S, score.
Source: World Bank (2011, 2020, 2023) and World Economic Forum (2011, 2017).

the level of economic growth as measured by the growth in Gross Domestic Product (GDP), inflation rate as measured by the change in Consumer Price Index, and infrastructure as proxied by Gross Fixed Capital Formation (GFCF). In addition, other variables of interest or consideration include FDI inflows, GCI score and ranking, and the EDBI score and ranking.

As shown in Table 8.1, the DRC and Tanzania are the fastest-growing countries in SADC, with an average economic growth rate of 5.7% during the 2011 to 2021 period. The growth of the largest economy in SADC, South Africa, averaged 1.2% over the same period. Seychelles (3.8%), Zimbabwe (3.8%), Malawi (3.7%), Zambia (3.7%), and Botswana (3.6%) all registered an average of between 3.5% and 4% economic growth during the 2011 to 2021 period. However, economies of countries like Zimbabwe are growing from a lower base, as the country has witnessed a prolonged period of economic instability dating back to the beginning of the new millennium. As a region, economic growth in SADC averaged 3.1% over the same period. FDI inflows as a percentage of GDP indicate that Mozambique (averaging 25.9%) and Seychelles (averaging 14.2%) received sizeable FDI relative to the sizes of their economies. Angola is the only SADC country with a negative FDI inflow as a percentage of GDP (–2.8%), signalling disinvestment. While inflation is not a significant concern in most of the SADC countries, it is a considerable concern for Zimbabwe. Between 2011 and 2021, inflation in Zimbabwe averaged 84.3%, mostly attributable to the economic and currency instabilities that the country has been experiencing over the past two decades.

Over the years, many organisations have also channelled and amplified their efforts in computing indicators aimed at capturing the competitiveness of diverse countries and regions. Such indicators include the Global Competitiveness Index (GCI) of the World Economic Forum (WEF), the Ease of Doing Business Index (EDBI) of the World Bank, and the Competitive Industrial Performance Index (CIPI) of the UNIDO. In terms of the 2018 GCI rankings, Mauritius (with a GCI score of 4.5 and a ranking of 45), South Africa (with a GCI score of 4.3 and a ranking of 61), and Botswana (with a GCI score of 4.3 and a ranking of 63) are considered the most competitive economies in the SADC region (WEF, 2018). Namibia, with a GCI score of 4.0 and a ranking of 90, is also regarded as equally competitive. The rest of the economies (see Table 8.1) had a GCI score of less than 4.0, and all ranked above 100. However, most of the economies show an improvement in both the 2017–2018 score and rankings compared to the 2011–2012 position.

The EDB score in the SADC region averaged 53.4 in 2011 and improved to 57.6 in 2020. Some of the SADC countries, such as Mauritius, South Africa, Zambia, and Botswana, largely enjoy business-friendly regulations with Mauritius holding the highest EDBI score of 81.5 with a ranking of 13 out of the 190 countries covered in the 2020 EDBI edition, while the DRC has the smallest EDBI score of 36.2 with a ranking of 183. However, those countries that have weak EDBI scores and rankings appear to have one or more stronger

dimensions of the index. For instance, in 2020, it surprisingly took only seven days to start a business in DRC (down from 84 days in 2011) relative to 54 days in Namibia (down from 66 days in 2011). Noticeable improvements can also be observed in countries such as Zimbabwe, with a decline in the number of days to start a business from 87 in 2011 to 27 in 2020, and Angola (66 days in 2011 to 37 days in 2020). In the SADC region, it took an average of 26.38 days to start a business in 2020 compared to 44 days in 2011.

In the CIPI, there is no African country in the top 50 of the 152 countries covered in the index. South Africa is the best African country on that list but only ranks 52nd out of 152 countries. Again, only ten African economies are ranked among the top 100 countries in the CIPI, but far below South Africa (UNIDO, 2020: 26).

An analysis of the FDI inflows in Figure 8.2 reveals that South Africa (with an average FDI inflow of US$7.6 billion), Mozambique (US$4 billion), DRC (US$1.5 billion), and Tanzania (US$1.3 billion) were the largest recipients of FDI inflows in the SADC region over the period from 2011 to 2021. SADC, as a whole received an average of US$10.8 billion over the same period. The average FDI inflows in SADC have grown by nearly 265%, from US$783.89 million in 2011 to US$2.9 billion in 2021. On average, Angola witnessed a dis-investment of US$2 billion and only received positive FDI inflows of US$3.7 billion in 2014 and US$10 billion in 2015.

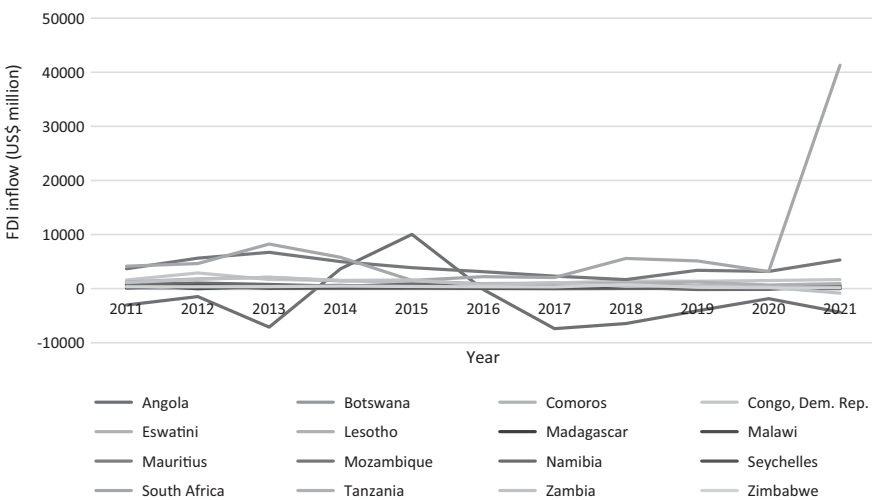

Figure 8.1 FDI inflows in SADC from 2011 to 2021

Source: World Bank (2023).

8.3 Insights from the empirical and theoretical literature

In 2021, countries in SADC accounted for only 2% of the world GDP and 1% of the world's manufacturing value added (World Bank, 2023). To enhance the welfare of their citizens, sustain population growth, and create wealth, SADC countries have to become more productive to increase their competitiveness (Emeka, 2020: 171). Leveraging on the execution and development of the region's industrialisation agenda as well as the expansion of trade in manufactured produce may usher in opportunities emanating from economies of scale and enhanced competitiveness, which might enable SADC countries to prosper due to their specific geographical locations (Kimenyi et al., 2012; World Bank, 2009). Knowledge of the locational factors that influence the competitiveness of industries in a specific region and how they function is, therefore, important.

As a departure point, economics studies how scarce resources are used to satisfy unlimited wants and needs. Where people are located and conduct their production and consumption also have a large influence on output and total income generated. Hence, every country and region (SADC included) has to make the best of what they have. As such, throughout the years, various theories have been developed to explain how diverse locations offer specific competitive advantages and how agglomeration and spill-overs from neighbouring regions can enhance the development of others. Consequently, the theoretical foundation of location and competitiveness has evolved along with the development of positive economics and regional and urban studies.

In 1890, Alfred Marshall indicated that specific regions develop because they possess a pool of skilled workers, supplying and supporting industries nearby, and enjoy technological and knowledge spill-overs due to the proximity of related industries in the location (Kleynhans & Drewes, 2008a; Marshall, 1890). Again, one of the most cited classical works on industrial location is ascribed to Alfred Weber (1868–1958). In his 1909 publication 'Theory of the Location of Industries', Weber put forward the first established general theory of industrial location, which considered numerous spatial factors for finding the optimum location and minimal cost for manufacturing plants. Weber (1929) also applied the theory to service organisations such as investment firms and, more widely, to certain political and cultural systems. Various models, such as the Lewis (1954) model of economic development, the cumulative causation model (Kaldor, 1966), and the endogenous growth theory (Romer, 1986; Lucas, 1988), to name a few, were also developed to explain and investigate geographical, and economic development.

During the 1990s, Paul Krugman (1991; 1998) extended the principles of Marshall (1890) further and developed them in much more detail by suggesting the reconsideration of economic geography in models and techniques that originated from theoretical industrial organisation. By then, regional scientists could test and investigate these theories empirically, leading to a better understanding of geographical economic analysis and dynamics. Hence,

Krugman (1991) propagated the 'New economics geography' theory, which indicated that spatial agglomeration, external economy and imperfect competition have a role to play in the regional development of an economy. What looks like disadvantages at first, which is often prevalent in SADC countries, presents opportunities for development, as it offers entrepreneurial opportunities. This implies that increased specialisation and regional industrial concentration emphasised by dynamic externalities overall will lead to regional development in the long term.

8.4 Locational factors influencing the competitiveness of industries in SADC

Each location has unique features. Therefore, firms and countries ought to occupy positions in global value chains where they best fit, given the uniqueness of their location. In that way, they can be competitive in their specific niche (Bezuidenhout et al., 2018). In most instances, the strategic advantage of the firm is usually awarded by the unique endowments of a particular location, which typically guarantee sustained trade relations, lower production costs, and increased profit margins (Zarenda, 2012: 5). It is also necessary to position firms to become internationally competitive, as they have to look beyond servicing only the domestic market in recent years. Firms must be export-oriented since expanding into international markets enables them to access global markets as a trading area. Hence, when one market becomes redundant or saturated, a firm can always seek other market opportunities elsewhere because global markets are virtually infinite.

In line with the export-oriented approach, it is also significant for firms to align their products with international prices, tastes, and preferences. Countries cannot apply tariffs or quotas to try and force international markets to change their price structures in line with the domestic price structures and standards of their firms. The result in such a case is usually that the firms in the country in question will become uncompetitive and eventually have to stop their operations and exit the industry (Kleynhans, 2016). However, when firms and industries operate according to international price structures and standards, they will prosper, create employment, and fabricate an enabling environment for the country as a whole to increase its income and wealth. It is also not guaranteed that firms that supply related products at the same prices and quality to the market would win customers internationally. Hence, it is vital for firms always to be innovative and supply new and better products to markets at prices, quality, and presentation that would attract new customers. In other words, firms should at all times strive to seek novel ways of enhancing competitiveness to win the market and outperform other competitors on the global scene.

Locational factors that determine and enhance competitiveness are, among others, distance from ports and major markets, resources, available intermediate inputs, infrastructure, supporting services, human capital,

training facilities, factors specific to the area, productive linkages, networks, ease of doing business, knowledge and technological spill-overs, institutions, the rule of law, democracy, and peace (Kleynhans & Drewes, 2008b, 2008a; UNIDO, 2020). A single aspect is not enough to ensure competitiveness, but the dynamics of several aspects and their interaction should be in place. Some of the most important factors are discussed in the following sub-sections.

8.4.1 Land-locked/sea-locked

All the land-locked countries in the SADC region – Botswana, Democratic Republic of Congo, Eswatini, Lesotho, Malawi, Tanzania, Zambia, and Zimbabwe (cross-reference to Chapter 1, Map 1) – are developing countries, most of which are confronted with explicit limitations imposed by geographical location (World Bank, 2008) (see Map 1 in Chapter 1). Being far from major ports and markets raises transport costs and increases time and money spent on cross-border movements, such as Botswana and Zambia. There may be losses due to difficulties reaching markets and supplies, and energy costs are often higher, as are intermediate inputs, wages, and rents. Being land-locked may also limit foreign access to the products traded by the firm and may cost a country some loss of sovereignty. The same constraints that emanate from being land-locked may likewise apply to small islands that are 'sea-locked', such as the Comoros, Madagascar, Mauritius, and Seychelles. This is, however, not always the case. Issues of small size and remoteness can be addressed through appropriate policy, as was proven by the success achieved by Mauritius (Word Bank, 2009).

8.4.2 Resources

Resources, such as minerals, are fixed to a specific location, and countries cannot determine their location. In many cases, producers may choose to be located near such resources to minimise costs, but that might be too far from intermediate inputs or profitable markets. An optimal location must then be found. SADC countries mainly focus on resource-based and primary products. Market demand in the world is, however, low and declining, leading to negative growth (UNIDO, 2020). Countries that can produce goods and services of higher technological complexity become internationally competitive, but that requires higher skill levels and knowledge, which is scarce in Africa (UNIDO, 2020).

In the agricultural market, SADC farmers can reap the benefits of a good warm climate, with much rain, good soil, large areas of pasture, and cropland. Good examples are the DR Congo, Malawi, Mozambique, Angola, Tanzania, Zambia, and Zimbabwe (Johnson et al., 2007). Unfortunately, many African countries, such as the DR Congo and Angola, experience a lack of political cohesion to enjoy the benefits of their climate. SADC countries

also trade much in agricultural goods among each other but export very little to the rest of the world (Van Rooyen & Esterhuizen, 2001).

In international markets, SADC countries export mostly resource-based and natural resources, suffering low prices and low global demand (UNIDO, 2020). If they could add more value, it would make those countries more competitive and raise national income – for example, exporting jewellery instead of gold; small aeroplanes, instead of iron ore, titanium, and aluminium; and lithium batteries instead of lithium ore. The dynamic development of market structures and integration into global value chains should be ideal for finding a unique niche where producers in SADC can be competitive (UNIDO, 2020).

8.4.3 Human capital

Human capital is regarded as a locational factor of effective industrial development, which directly affects the level of competitiveness of firms in an industry and that of the country in its entirety. The core richness of any nation is constantly epitomised by its human capital. Human capital, therefore, can be viewed as a rich complexity of accrued values stipulated by demographic features, education and training, employment, welfare, social setting, and emotional, and ecological matters (Chulanova, 2017). From this perspective, the development of human capital in a particular country is directly linked or correlated to economic growth, economic competitiveness, and improvement in the welfare of the citizens and national prosperity.

As a region, SADC is considerably endowed with human capital. This is despite significant human capital flight, mostly to Western countries, being witnessed by SADC members such as Zimbabwe owing to unfriendly labour environment and economic hardships. Nonetheless, it is essential to acknowledge that a pool of well-developed human capital, with workers that are highly skilled, educated, and possess technical knowledge, is vital for SADC countries to reach a noble competitive advantage in the international arena. Hence, respectable managerial expertise is necessary but also especially for high-level engineers who can change ideas into advanced technological goods. Supported by such levels of expertise, a good focus on maintenance is also required to ensure that countries in SADC do not lose what they had built up.

8.4.4 Infrastructure

Spatial connectivity between markets, investments, and entrepreneurs is essential to ensure a well-functioning economy where firms can become internationally competitive (World Bank, 2009). To facilitate the movement of goods and services, information, and people locally and globally requires proper roads, railways, harbours, airports, water, and the internet and other communication facilities. The provision of quality infrastructure and the maintenance thereof enables producers, businesses, and markets to function well and permits firms to focus on their primary business and diminish costs.

Moreover, economic distance is reduced, lowering operational costs (World Bank, 2009).

If firms produce goods for which there are outstanding export opportunities, but harbours are absent or malfunctioning, their whole value chain collapses, and they lose their competitive edge. Some exports, such as bananas, must also be handled in time to ensure they reach consumers as fresh as possible. It also does not help farmers to produce lots of sugar cane, corn, or bananas, and there are no storage facilities like silos to store it properly (Johnson et al., 2007).

In terms of infrastructure, SADC countries often develop good infrastructure and institutions but neglect the maintenance thereof (Al-Nabhani et al., 2013). However, damaged infrastructure is useless and retracts from the industrial competitiveness of a region and its producers and exporters. Instead, authorities should supply infrastructure rather than subsidies because infrastructure facilitates economic and trade activities, without upsetting the market system.

8.4.5 Technology

With a well-educated workforce possessing knowledge of the development and production of high-tech goods, regions may develop a competitive advantage, even without the necessary resources locally available. The development of the electronic industry in Malaysia is a good example. The endogenous growth model shows that countries can develop expertise with what they have. UNIDO (2020) indicated that SADC countries produce very few high-technology goods that enjoy distinguished international market demand (UNIDO, 2020).

Nonetheless, positive externalities are gained when investment in research and development (R&D) is higher, and skills training exists, which often contributes to international competitiveness (UNIDO, 2020). The subsidisation of R&D and training programmes by industry and governments are, therefore, important investments in the future competitiveness of a region and its firms. SADC countries have a comparative advantage in the production of raw materials for biofuels and have export opportunities to the Organization of Economic Cooperation and Development (OECD) countries (Johnson et al., 2007). They do, however, lack the technical knowledge and the initiative to organise it. In this regard, R&D can also be a significant causative element.

It has also been observed that the production scope of most SADC countries is too narrow. In other words, the majority of the SADC countries specialise in the production of only a few commodities. As a result, if demand or some other factor fails, the whole industry experiences difficulties. On the contrary, those producers in SADC that do excel have all diversified their market offerings (Petersson, 2000). Hence, diversification in terms of both product offerings and target markets is a significant constituent towards competitiveness.

8.4.6 Economic and political stability

Locations that enjoy favourable macroeconomic and political environment attracts more industries, investors, and customers. However, most of the SADC countries face a myriad of economic challenges ranging from low economic growth to high unemployment, with the effects manifesting in dampened aggregate demand. Significant economic challenges that are affecting both the supply- and demand-side emanate from the seemingly persistent energy crisis being faced by countries such as Zimbabwe and South Africa, mostly in the form of electricity load-shedding.

Civil strife, protests, regional conflict, and wars also destroy the optimal functioning of markets and institutions. Unfortunately, everything that is built up in African countries (SADC members included) is often destroyed again by the prevalence of such conflicts. Governments should strive to ensure peace, law, and order. The SADC (2023) also acknowledges the need for dispute resolution in their Declaration on Productivity. It is also paramount for SADC as a bloc to stand for its values and call for an end to civil and armed conflicts in the region. For instance, the regional grouping called for an end to the armed conflict in the Eastern DRC during its Troika meeting held in Namibia on the 7th of May 2023. Concerning human rights, by the maintenance of law and order, control of corruption, the protection of property rights, and embracing democratic values, superior competitive markets, cities, and countries will develop (Al-Nabhani et al., 2013).

8.4.7 Market-related factors

Traditionally, firms pursue locations that are near large markets and decent sources of intermediate input supply. Where free markets are well developed and much trade is already prevalent, companies find it easier to develop competitiveness. There exist advantages of agglomeration, and technological as well as knowledge spill-overs (Coetzee et al., 2017). Large markets with a dynamic economy are especially beneficial to small countries and developing firms (World Bank, 2009). It provides more opportunities and market demand. It can also gradually facilitate exports from those firms and regions. Trying to compete internationally over exceptionally long distances and far from well-developed markets is very difficult. On the other hand, market participants in association with globalisation can enhance information technology, which promotes production, decision-making, and competitiveness (Kleynhans, 2016).

Authorities should enhance the ease of doing business. In some regions, it takes months to start a new business, and in others, only a day or two. Access to finance and institutions, and very little red tape and low taxes, invites investors and enables firms and regions to trade and develop competitiveness as they gain experience. A market-friendly economic environment facilitates higher development and competitiveness of a region (Al-Nabhani et al., 2013). In other words, low administrative bureaucracy procedures and costs

and an inviting business setting attract investors and enables more business to develop and gain competitiveness.

Less developed regions are all far from economically well-developed cities and markets (World Bank, 2009). New theories of trade and economic geography show a close correlation between access to large markets in a region and higher income per capita (Petersson, 2000). Interaction with better-developed markets ensures economic development and competitiveness. In this regard, most SADC countries strive to be competitive. They are characterised by open economies focusing mainly on exports, especially Botswana, Eswatini, Lesotho, Namibia, Mauritius, and South Africa, but it is only Mauritius that has a large manufacturing sector (Petersson, 2000). Such markets have lower taxes and operational costs, assisting firms to become more competitive.

It is key to comprehend that, as a region develop, it raises the concentration of production that offers benefits to all within its surrounding. Prosperity is sooner or later shared with those nearby (Coetzee & Kleynhans, 2018b). The region presents economic advantages to all participants in the market, including social benefits that flow from convergence in trade and consumption. In a virtuous cycle, economic prosperity grows as economic development progresses. Commercial development, production, and market competitiveness are the results of the opportunities generated by the development of a region (Coetzee & Kleynhans, 2018a; World Bank, 2009: 2).

8.4.8 Agglomeration

Where regions are located close together, the advantages of agglomeration, such as spatial links, contact with suppliers and support services, public provisions, infrastructure, consumers, and more access to global markets, enhance the competitiveness of businesses and producers, rendering them more productive, profitable, and growing (Syverson, 2011). Where several producers and businesses are located nearby, everyone gains higher income, lower costs, and enjoys higher profits. Research has also revealed that in locations where services, suppliers, and customers are shared by related industries, all firms involved gain efficiency, productivity, and competitiveness. This stems from the fact that such locations attract skilled workers, and they enjoy the advantages of knowledge and technology spill-overs (Kleynhans et al., 2008).

Other studies also confirmed that spill-over-inspired advantages at clusters benefit firms leading to employment creation and inclusive wealth (Zámborsky, 2012; Kleynhans et al., 2008a). New theories of trade and geography, and research flowing from it, indicate that as firms cluster, they gain through externalities and increasing returns to scale. Characteristics of specific production and knowledge become more important than merely the location of resources. Large markets usually also develop simultaneously at such nodes where produce can be sold. This availability of larger volumes

of customers also attracts industries and enhances agglomeration and the advantages thereof (Petersson, 2000).

Adversely, agglomeration develops certain development nodes, such as an industrial area or town, at the cost of other less developed regions, with smaller markets and producers located far away. Networks, may, however, also function across regions and may even be virtual. If infrastructure is well-developed and modern transport equipment is available, towns in regions further away may still enjoy the advantages of agglomeration. In other words, if contact with an industrial cluster is easy and transportation is efficient, areas located much further away may still enjoy the advantages of the agglomerated node. Development can shrink the distance from clusters or well-developed markets.

Policymakers and regional developers in SADC countries should identify those goods and services that specific areas have a relative competitive advantage in, and supply the necessary infrastructure and support to attract other industrialists and entrepreneurs. This must, however, be done to develop an industrial hub or cluster, which will eventually usher in the advantages of agglomeration. Once production and economic activity start at a location, other activities will follow (World Bank, 2009).

8.4.9 Regional integration

Trade between SADC countries is restricted because of distance and various trade barriers. Most countries in SADC and the African continent, in general, have the desire to integrate economically. Barriers to trade, such as border control, tariffs, quantitative restrictions, bribes, and other factors prevalent in the SADC region, could disappear with the advancement towards the establishment of a regionally integrated economic block, similar to the European Union. This will facilitate the free movement of labour, decrease costs on the supply side, decrease prices of commodities, and make products and services more attractive, rendering industries and services within the SADC region more competitive (World Bank, 2009). More especially, bureaucratic red tape and illicit checkpoints should be eliminated, and standards and regulations in the SADC region must be harmonised (Johnson et al., 2007). Please also refer to Chapters 3 and 10 of this book where regional integration is discussed in extensive detail.

Trade between SADC countries is considerably large, and free movement of economic activity between markets of various countries will increase the economic competitiveness of various locations, especially if this is accompanied by improved infrastructure (World Bank, 2009:30). Free movement of people and goods would decrease costs, prices, and increase the competitiveness of all locations. Governments are, however, used to the income from taxes and levies, especially cross-border trade, and transport. In this regard, countries like Zimbabwe, Zambia, and Malawi will lose income, while most other SADC countries will gain from such regional integration (Kalenga,

2000). There are, however, many factors that must still come into place, including economic growth, inflation, and skills that must be aligned before regional integration can become a reality in SADC (Jordaan, 2014).

8.5 Discussions and implications for policy and future research

While there have been periods when economic and development activities became more unevenly distributed across space, periods have also been witnessed when these spatial differences have narrowed as economic and development activities dispersed from established centres into other regions and countries. It is not a secret that the paradigm that governs global competition has transformed. The old paradigm was grounded on static efficiency, and the firm with the least input costs or the greatest economies of scale dominated. Such static efficiencies were the decisive benefit of agglomeration identified by Marshall (1890), Weber (1929), Lösch (1954), and others who have addressed the role of location in competition.

Nonetheless, the globalisation of competition and advancing technology have gone far to neutralise these locational benefits identified by Marshall and others. Nowadays, firms can source factors such as raw materials, capital, and even generic scientific knowledge in global markets, and locate selective activities overseas to tap into low-cost inputs. Hence, the contentions of Porter (1994) still hold within the current locational and industrial competitiveness space, including in the SADC region. Indeed, the basis of competitive advantage has shifted from static efficiencies to the rate of dynamic improvement. As Porter (1994) asserts, it is not the inputs or scale the firm possesses today but its ability to relentlessly innovate and upgrade its skill and technology (largely intangible assets) in competing.

Modern technology offers producers the ability to be part of global value chains. Services such as engineering, designing, insurance, banking, and accountancy can easily be sourced from wherever the best or the best prices can be sourced globally. Using communication and computer technology, sections of the value chain of a specific product may be sourced, as location can now also be virtual (Jungo et al., 2022: 19). The same can apply to resources, as they can be transported and obtained from anywhere in the world.

Declining communication, services, and transport costs enable industries in various locations to specialise in early developmental stages and win the fastest-growing sections of the value chain, trade in manufactured goods and services, reach economies of scale, and become internationally competitive (World Bank, 2009: 20). Such declining costs improve the free flows in the markets, and the neo-classical model becomes all more important (Petersen, 2000: 3). This enables free markets to function optimally and grow the development nodes, such as a city or country.

As alluded to earlier, the perception of industrial location and geography has assumed a space where it has become a consensus that location and

geography are not all that matters. For instance, cane sugar production in SADC countries was often developed with little regard to a particular location since most SADC countries offer excellent climates to produce sugarcane (CARENSA, 2007). In Eswatini, issues such as salinisation are key limiting factors, but most other SADC countries, such as Angola and DR Congo, have suitable land and climate, and in the longer term, DR Congo may become an important bio-energy producer, as the country possesses excellent soil, much rain, and large land areas (Johnson et al., 2007). Although industrial location and geography can be regarded as not all that matters in contemporary times, it must be submitted that each location may uniquely have something that it can offer relatively competitively. Each location also has people that have to make a living there, and to them, trade flows from their region are most important.

For the SADC region, crafting a productivity-enhancing regional system and technology-based ecological ambition can support the transition to a new development path centred on enhancing competitiveness. However, this cannot happen instantly, but gradually over time. Some of the important steps that SADC can take towards this path to enhanced competitiveness include the following: improving transportation infrastructure to diminish the costs of doing business in the region; and reducing transportation costs stemming from issues linked to border delays, cartels in the trucking industry, multiple clearance processes, and corruption, all of which keep transport costs artificially high. This, of course, underscores the significance of regional collaborative exertions in establishing competent transport systems and calls for SADC countries to enhance the transparency of transit and border regulations, streamline administrative procedures, and additionally abridge ports and border control as well as procedures; beneficiation of natural resources instead of exporting raw materials; and the recognition of the stage of development, size, and geographic location of member states and the need for an inclusive industrialisation and development agenda.

The analysis and discussions in this chapter are by no means exhaustive. Hence, future research can be directed towards establishing regional-level evidence on industrial location and competitiveness in SADC. Survey-based quantitative and qualitative studies can also be instituted to improve the understanding of the role of location and geography in the competitiveness of industries in the SADC region. The question of whether industrial location and geography still matter in the face of globalisation and the accompanying technological progressions also calls for empirical analysis.

8.6 Conclusion

While globalisation and the accompanying technological progress have inspired the thinking that industrial location and geography do not matter in contemporary times, practical evidence suggests otherwise. For instance, the significance of industrial location has been prevalent in the variations

of economic and development performances of countries and regions, the geographic concentration of leading firms or industries within nations or regions, and the location decisions of MNEs. Location has always been an important aspect of industrial competitiveness. This chapter aimed to enhance the understanding of the influence of location on the competitiveness of SADC industries. This was achieved by providing an overview of selected macroeconomic indicators relating to location and competitiveness in the SADC as well as a comprehensive identification of locational factors influencing the competitiveness of industries within the SADC regional grouping.

The locational factors that influence competitiveness in SADC were identified as: being land-locked/sea-locked, which is imposed by geography and commonly raises transport costs and additionally increases time and money spent on cross-border movements; resources, which in many instances motivate firms to locate in the proximity of intermediate inputs; human capital development of which is directly linked or correlated to economic growth, economic competitiveness, and improvement in the welfare of the citizens and national prosperity; infrastructure, which is essential in ensuring a well-functioning economy where firms can become internationally competitive; technology, which inspires regions to develop a competitive advantage, even without the necessary resources domestically available; economic and political stability, which enables a region to attract more industries, investors, and customers when it is favourable; market-related factors, which when favourable makes it easier for firms to develop competitiveness; agglomeration, which enhances the competitiveness of businesses and producers through advantages such as spatial links, contact with suppliers and support services, public provisions, infrastructure, consumers, and more access to global markets; and regional integration, which has the potential to diminish transportation costs and the cost of doing business, in general.

Even though the paradigms on which industrial location is grounded have shifted, it is acknowledged in this chapter that each location may uniquely possess something that it can offer relatively competitively. Hence, the SADC region is recommended to create a productivity-enhancing regional system and technology-based ecological ambition that can support the transition to a new development path centred on enhancing regional competitiveness. This encompasses enhancements in transportation infrastructure, addressing challenges linked mostly to border delays and corruption through streamlining transit and border procedures, beneficiation of natural resources, and recognising the diversity of members in crafting an inclusive regional industrialisation agenda.

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9 The road less travelled

Exploring the untapped potential of intra-regional trade in the SADC

Ermie Steenkamp and Lorainne Ferreira

9.1 Introduction

African governments have long recognised the importance of regional integration in driving the continent's development strategy and have widely supported it since gaining political independence (ICTSD, 2016). Despite the widespread support, achieving deeper integration and increased intra-regional trade has proven challenging (see Chapters 1 and 2). This is mainly due to the small, fragmented, and isolated economies in Africa, making a strong case for regional integration to exploit economies of scale, reduce trade barriers, and benefit from efficiency gains.

The primary objective for the formation of Africa's Regional Economic Communities (RECs) was to promote greater unity among African nations. However, most African RECs have not achieved their member states' economic aspirations, with the underperformance of trade integration being one of the main contributing factors (De Melo, 2013). The SADC is no exception, and although the REC has taken significant steps towards regional trade integration by adopting a comprehensive approach to address challenges related to regional production networks, infrastructure, and competitiveness, there remains a substantial gap between the SADC's objectives and what they have achieved (Baker & Deleplancque, 2016; Nare, 2020).

In this chapter, we highlight the significance of intra-regional trade in achieving deeper integration by identifying and examining potential untapped trade opportunities within the region. The information provided aims to promote increased intra-regional trade in the SADC, which serves as a critical first step towards bridging the gap between idealistic integration-related policy objectives and their practical implementation. This step is crucial in ensuring that regional integration policies and strategies are aligned with the actual needs and priorities of the region.

9.2 The role of trade and regional integration in economic development

Regional integration, also known as regional economic integration, is a multidimensional phenomenon, that involves international trade and investment

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flows, infrastructure connectivity, movement of people, technology transfer, and knowledge exchange (Bacrot & Valensisi, 2019). This complex phenomenon brings together countries with the aim of fostering deeper cooperation, promoting economic growth, and addressing common challenges through increased collaboration and harmonised regulations.

According to traditional trade theory, countries trade because of their differences, either in terms of technology or relative supplies of factor endowments such as labour, capital, and land (Ehnst & Trautwein, 2012). If there are differences in the relative costs of producing the same goods, all countries, or regions, can benefit from trading with one another. As such, comparative advantages, determined by patterns of specialisation, determine the direction of trade (Ehnst & Trautwein, 2012).

The theory of comparative advantage therefore assumes that least-developed and developing countries, such as African countries, specialise in the production of primary goods, while more developed countries, endowed with technology, specialise in the production of industrialised goods (Mohammed & Magai, 2019). Consequently, least-developed and developing countries are more likely to trade with developed countries than among themselves (Mohammed & Magai, 2019). The general policy prediction, therefore, is that economic welfare increases through the mutual specialisation prompted by the removal of trade barriers (Ciuriak et al., 2014).

Today, however, actual trade is proving to be mostly intra-industry trade and trade between countries that are relatively similar in their supplies of factor endowments and levels of technology, as explained by the 'new trade theory' (Ciuriak et al., 2014). This theory provides two primary reasons why countries trade. First, different factor endowments between countries allow for mutually beneficial trade, which aligns with the more traditional trade theory of comparative advantage. Second, countries can exchange similar but differentiated goods, which can lead to significant economies of scale and network effects, as highlighted in the new trade theory. While the former theory suggests that countries with similar production structures, such as African countries, should have fewer reasons to trade with one another, the latter theory suggests that deeper integration could lead to substantial gains from intra-industry trade – even among countries at comparable levels of development (Fortunato & Valensisi, 2011). The new trade theory, therefore, highlights that deeper integration can lead to significant gains from intra-industry trade, even among countries with comparable levels of development. This supports the idea that regional integration not only provides member countries with preferential trade access but also enhances countries' overall competitiveness and growth prospects. Regional trade integration, therefore, assists smaller, poorer, and remote countries to scale up their supply capacity in their regional production networks, also allowing these countries to access global markets (Deichmann & Gill, 2008).

The World Bank's (2009) 'Reshaping Economic Geography' report further emphasises the importance of geographic transformations for developing

countries. It suggests that regional integration strategies and policies need to take into account member countries' economic geography, particularly their location, size, and openness to trade, to be effective. The report suggests that countries can achieve success by promoting economic-geographical transformations, which include reducing the number of ***divisions*** among countries by thinning borders, lowering transport costs, and developing infrastructure to take advantage of economies of scale and specialised goods; shortening ***distances*** by encouraging labourers and firms to relocate closer to denser areas; and increasing ***densities*** as cities grow. Regional integration is a critical factor in these transformations to improve the production capacity and structural and spatial transformation needed for sustainable economic growth and development.

According to the World Bank (2009), overcoming divisions is crucial for successful regional integration. While density and distance are important factors, division is the most important dimension internationally, as it affects the mobility of inputs and outputs, as well as the strength of agglomeration (density) and migration (distance). Divisions typically arise from thick borders, created by poor infrastructure, and inefficient customs and border procedures, which restrict market access. By reducing divisions, neighbouring countries can start trading similar goods, leading to benefits from specialisation and economies of scale, as stated in the new trade theory. This, in turn, can lead to lower transport costs, increased trade efficiency and competitiveness, and ultimately, economic growth and development (World Bank, 2009).

Regional integration, therefore, reduces the economic distance between leading and lagging countries, benefiting smaller or landlocked countries the most (Alesina & Spolaore, 2003). African countries can therefore seek strength in numbers by thinning their borders and integrating with their neighbours through RECs (Naudé, 2007). This approach is currently in the spotlight in Africa, where countries actively try to reduce divisions by improving infrastructure and reducing trade costs within existing RECs. This will help to ensure a more coherent approach to integration, which will allow producers and consumers across a particular region to be better connected to one another and global markets (World Bank, 2012). While reducing trade costs is essential for deeper integration, policymakers must also focus on improving production capacity and implementing structural and spatial transformation to ensure that greater market access translates into sustainable economic growth and development.

9.3 Regional integration: Models, strategies, and the impact on cooperation and development

According to Oyejide (2000), regional integration implies at least two overarching goals: the promotion of intra-regional trade and the enhancement of industrialisation and economic growth. Achieving the former requires

reducing trade barriers and liberalising trade within the region, while the latter involves nurturing infant industries to enable them to become competitive and export to regional and global markets. By pursuing these goals, regional integration enables countries to focus on issues that are appropriate to their stage of development, as well as encourage greater trade and economic cooperation among member states.

According to Geda and Seid (2015), one of the most important instruments used to advance regional integration is sustained growth in intra-regional trade. This is also applicable to Africa's integration agenda, which prioritises the expansion of intra-regional trade as a means to promote regional growth and development (Oyejide, 2000). Currently, intra-African exports – although much smaller in value terms – are distributed more evenly among food, manufactured goods, non-fuel primary goods, and fuels. This suggests that increased intra-African trade could result in significant benefits from trade diversification, based on the diverse composition of traded goods among African countries (Hartzenberg, 2011).

The prevailing framework for regional integration in Africa has primarily focused on tariff reduction and eliminating regulatory barriers, exemplified by the Abuja Treaty. However, this linear approach has faced substantial criticism for its inadequacy in addressing the unique challenges faced by the African continent (Davies, 1996; UNCTAD, 2013; Vickers, 2017). The main criticism includes that the linear model puts 'the cart before the horse', so to speak, by calling for unrealistic targets and timeframes for integration that often show little regard for existing economic, political, and institutional realities on the ground (Vickers, 2017). Consequently, the experience with linear integration models varies among African RECs, with implementation efforts often hampered by various challenges and constraints, such as institutional capacity, policy misalignment, infrastructure deficiencies, trade barriers, and economic disparities, to name a few (Osakwe, 2015). Despite these obstacles, some RECs have made progress in their efforts to boost Africa's integration, such as the customs unions launched by the Common Market for Eastern and Southern Africa (COMESA), the East African Community (EAC), and the Economic Community of West African States (ECOWAS) (Osakwe, 2015). However, the effectiveness of these efforts has been subject to debate among scholars and policymakers due to the various challenges and constraints they face. The linear integration approach is, therefore, insufficient in addressing the supply-side constraints that African countries face (Hartzenberg, 2011).

Hartzenberg (2011) suggests a *developmental integration approach*, which includes structural transformation, regional infrastructure development, institutional capacity-building, as well as technology and innovation (Hartzenberg, 2011). The author argues that simply removing artificial obstacles to intra-African trade may not be sufficient to increase trade and deepen integration. Given the structural deficiencies and weaknesses in Africa that prohibit deeper integration (ECA, AUC & AfDB, 2010), countries need

to focus on developing their productive capacities to promote intra-regional trade and integration (Babatunde, 2016).

Developmental integration, in contrast to linear integration, recognises that poor infrastructure and undiversified production structures constitute bigger barriers to intra-regional trade than tariff barriers and regulatory constraints (UNCTAD, 2013). Therefore, effective market integration should not be limited to tariff liberalisation but should also address the key challenges associated with economic transformation and regional integration (UNCTAD, 2013). In other words, a broader development framework is necessary to address shortcomings in countries' productive and supply capabilities, which are essential for promoting intra-regional trade and integration into the global economy (ECA, AUC & AfDB, 2010). Subsequently, developmental integration rests on three pillars: market integration, cross-border infrastructure development, and structural transformation (Vickers, 2017).

Facilitating the growth of intra-regional trade is a crucial first step towards achieving deeper integration, sustained growth, and development. As observed by scholars such as Geda and Seid (2015) and Stuart (2020), trade integration often precedes deeper economic integration. As countries within a region engage in more trade with one another, firms tend to operate at higher capacities, leading to increased productivity and efficiency. Furthermore, greater intra-regional trade promotes competition, encourages investment, and allows for economies of scale and structural changes, all of which are essential to achieve progressively deeper integration and sustainable development.

9.4 Prospects for intra-regional trade growth in the SADC

As SADC member states recognise the vast economic potential linked to deeper integration, they have undertaken to develop policies that progressively eliminate obstacles to the free movement of goods, services, capital, and labour (AUC, 2019). As part of their pursuit for deeper integration, the SADC Secretariat has developed a Regional Economic Integration Strategy (REIS) for 2020–2030, which aims to increase the competitiveness of the SADC economies by promoting value-added production and diversification. In addition, the SADC's Industrialisation Strategy and Roadmap (2015–2063) was approved in 2015 and is designed to accelerate economic growth and strengthen comparative advantages in the region (AUC, 2019). These strategies focus on sectoral cooperation and infrastructure development, indicating a developmental approach to integration (see Section 9.3).

Despite being the second-largest economic community in Africa, intra-regional trade accounted for only approximately 19% of the bloc's total trade in 2020 (SADC, 2020). South Africa dominates the market and is the largest intra-regional exporter in the SADC, accounting for about 35% of intra-SADC exports in 2019 (SADC, 2019). However, the region's heavy dependence on international markets for capital and technology-intensive

goods limits the potential for intra-regional trade in these sectors, with minor exceptions of South Africa.

To foster greater intra-regional trade, the SADC needs to develop more regional value chains and diversify its production base. Developing intra-regional trade in sectors with regional substitutes, such as agricultural and manufactured goods, is crucial to promote regional economic growth and development. Furthermore, investing in regional infrastructure, such as transport and communication networks, would lower trade costs, increase market access, and facilitate intra-regional trade.

The SADC certainly has the potential to mobilise a deeper integration agenda; however, a new way of thinking is required when it comes to market integration issues. Intra-regional trade and integration policies tend to be too general and lacking in practical implementation, resulting in a neglect of established protocols. This study aims to address this issue by identifying untapped trade opportunities within the SADC that are currently unexploited. Despite there being a demand for imports and the necessary production capacity to meet this demand within the region, these opportunities are often overlooked in favour of exports from other countries outside the region. By bridging the gap between idealistic policy objectives and practical implementation, this study can serve as a first step to inform setting priorities in regional trade promotion and ultimately towards achieving a more united and integrated SADC.

9.5 Research method

In this study, the research method employed to identify regional trade opportunities within the SADC incorporated selected elements of the Decision Support Model (originally developed by Cuyvers et al., 1995, for government export promotion purposes) and trade competitiveness indicators based on Reis and Farole (2012). It follows Ferreira and Steenkamp (2020a, 2020b) as well as Ferreira et al. (2022) in matching import demand and export supply to identify regional bilateral trade opportunities on an exporter-product-importer level.

To begin, the approach aims to identify sizeable and growing import demand amongst all HS6[1] digit level products (around 6,000 product categories) in the different SADC countries. Thereafter, the level of competition present in each import market is evaluated. Product-and-country combinations (import markets) that exhibit high concentration with one or two large suppliers are eliminated. Secondly, the analysis considers the export supply of the SADC countries on the same HS6 digit level. Specifically, products in which the different SADC countries display a revealed trade advantage in exporting are selected to match the import demand. Finally, the import demand and export supply are matched to pinpoint exporter-product-importer combinations within the SADC with regional trade potential. To assess the extent of these opportunities, actual exports for

each combination are compared to a potential trade value derived from the average market value of suppliers in each import market. Notably, untapped regional export opportunities are identified when actual exports remain at zero despite the large and/or growing import demand, and when the exporter has the capacity to export the respective product. Figure 9.1 illustrates this process flow.

A more technical explanation of each step follows.

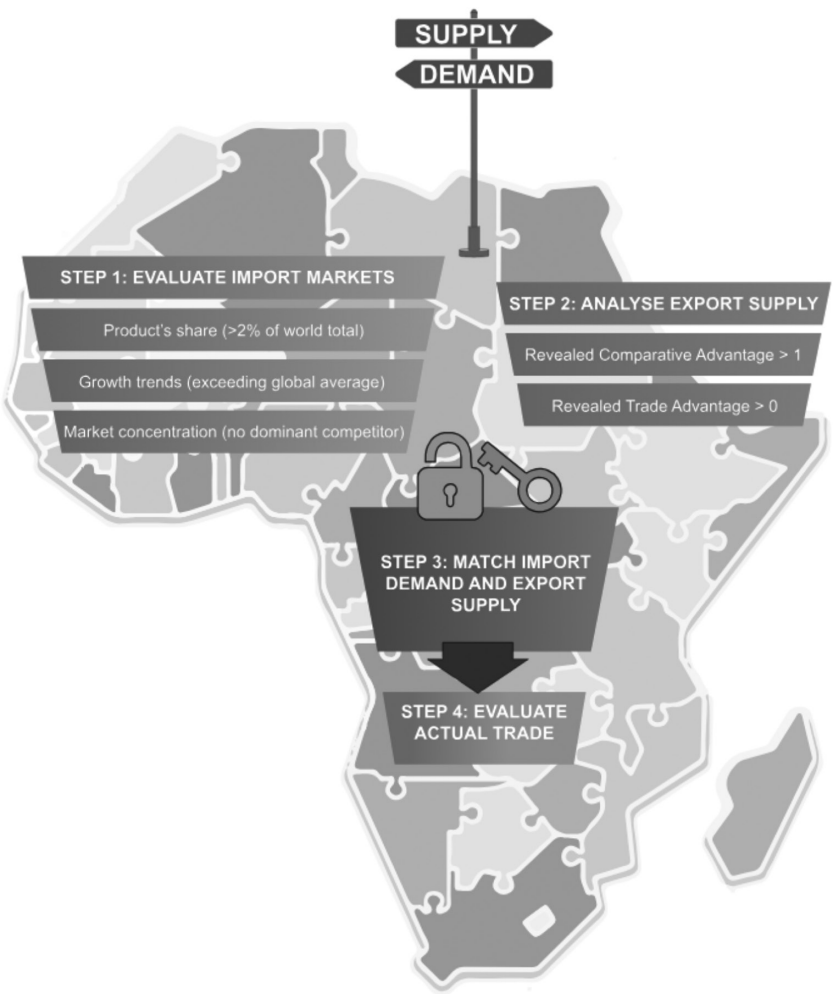

Figure 9.1 Research process flow

Source: Authors' own compilation based on results

Step 1: Evaluating the import demand

This step includes an evaluation of the import size and growth of each importer-and-product combination under investigation. It also assesses the concentration of suppliers in each of these import markets.

Step 1.1: Evaluating import market size and growth

To evaluate the size and growth of import demand, three variables are calculated for each importer-and-product combination. These variables include import market size, short-term import growth, and long-term import growth. Import market size is measured as the importing country's share in world imports of the specific product. The short-term import growth is the most recent annual simple growth in imports. For long-term growth, the compounded annual percentage growth in imports over a five-year period is calculated (Cuyvers et al., 1995: 178; Cuyvers, 2004: 259–260).

To identify out those markets with adequate size and growth, cut-off values are defined following Cuyvers et al. (1995: 179; 1997: 5; 2004: 260). For size, import demand is required to be larger than 2% of world imports of the product. Both the short-term (simple one-year) and long-term (compounded five-year) growth in import demand should be above the world growth rate for the product.

The selection of markets is based on the categorisation illustrated in Table 9.1.

Depending on whether the cut-off criteria are met or not, a value of '1' or '0' is assigned to the corresponding columns in Table 9.1. A product-country combination is considered to have import demand potential if it falls into categories 3, 4, 5, 6, or 7 (Cuyvers, 1997: 6; 2004: 261).

Step 1.2: Import market concentration analysis

Based on Cuyvers et al. (1995: 180), entering a market that has a high degree of concentration can be challenging. A market is deemed to be

Table 9.1 Categorisation of product-country combinations, in terms of, size, and growth of import demand

Category	*Short-term import market growth*	*Long-term import market growth*	*Relative import market size*
0	0	0	0
1	1	0	0
2	0	1	0
3	0	0	1
4	1	1	0
5	1	0	1
6	0	1	1
7	1	1	1

Source: Cuyvers (1997: 7; 2004: 261)

concentrated when a small number of exporting countries hold a significant market share, leading to a higher level of market knowledge and familiarity with local customers. Cuyvers et al. (1995: 180) conducted an analysis that revealed a negative correlation between export performance and market concentration, further supporting their argument. As a result, they concluded that it would be ineffective for government export promotion agencies with limited resources to focus on heavily concentrated markets since the probability of successful exporting is relatively low.

The degree of market concentration is determined using the Herfindahl-Hirshmann-index (HHI) introduced by Hirshmann (1964).

$$HHI_{ij} = \sum \left(\frac{X_{k,ij}}{M_{tot,ij}} \right)^2$$

where:

$X_{k,ij}$: the exports of country k to country i for product category j; and

$M_{tot,ij}$: country i's total imports of product category j.

An HHI value of 1 represents a market solely supplied by one exporting country, and a value closer to 0 indicates a lower concentration where the importing market is served by multiple exporting countries. As such, if the HHI value for a particular market is relatively high (closer to 1), it would be more challenging for an exporting country to penetrate that market, as noted by Cuyvers et al. (1995: 180; 1997: 7; 2004: 261).

To establish a cut-off point for market concentration, Cuyvers et al. (1995: 180) highlighted that market concentration could be a more significant issue in a non-growing market, where competitors have a well-established market share that must be won. Conversely, concentration may be less of a problem in a large, growing market. Consequently, the cut-off point for market concentration was dependent on the category assigned to the various markets in Table 9.1.

The cut-off points are consequently defined as follows (Cuyvers, 1997: 8; 2004: 262):

$$h_k \geq HHI_{ij}$$

with:

$$h_k = 0.4, for\ category\ 3$$

$$h_k = 0.5, for\ categories\ 4, 5, and\ 6$$

$$h_k = 0.6, for\ category\ 7$$

It is therefore clear that a larger degree of concentration is tolerated for larger, growing markets (see Table 9.1).

Step 2: Analysis of the export supply

Production data on a disaggregated level is very difficult to obtain on an HS 6-digit product level for different countries. Therefore another measure/proxy had to be used to measure the supply capacity of the exporter. The Revealed Comparative Advantage (RCA) index is often used to indicate a country's relative export competitiveness for a specific product (Reis & Farole, 2012). It measures the level of specialisation in exporting a certain product by dividing the share of that product in a country's exports by the product's share in world exports (Reis & Farole, 2012). It however overlooks the possibility that the country may be a net importer of the specific product. To address this limitation, the Revealed Trade Advantage (RTA) index is used, as it considers both exports and imports (Vollrath, 1991). The RTA index is calculated by subtracting a country's Revealed Import Advantage (RMA) from its RCA for a particular product.

Following Cuyvers et al. (2012), RCA, RMA, and RTA indices are calculated as follows.

$$RCA_j = \frac{\left(\frac{X_{i,j}}{X_{w,j}}\right)}{\left(\frac{X_{i,tot}}{X_{w,tot}}\right)}$$

Where:

$X_{i,j}$: is country *i*'s exports (i.e. the exports of the country for which priority products for trade negotiations are being identified) of product *j*;

$X_{w,j}$: is the world's exports of product *j*;

$X_{i,tot}$: is country *i*'s aggregate exports; and

$X_{w,tot}$: is the world's aggregate exports.

And

$$RMA_j = \frac{\left(\frac{M_{i,j}}{M_{w,j}}\right)}{\left(\frac{M_{i,tot}}{M_{w,tot}}\right)}$$

Where:

$M_{i,j}$: is the imports of country *i* of product *j*;
$M_{w,j}$: is the world imports of product *j*;
$M_{i,tot}$: are the total imports of country *i*; and
$M_{w,tot}$: is the total imports of the world.
Finally:

$$RTA_j = RCA_j - RMA_j = \frac{\left(\frac{X_{i,j}}{X_{w,j}}\right)}{\left(\frac{X_{i,tot}}{X_{w,tot}}\right)} - \frac{\left(\frac{M_{i,j}}{M_{w,j}}\right)}{\left(\frac{M_{i,tot}}{M_{w,tot}}\right)}$$

The selection cut-offs for these export supply criteria are RTA > 0 and RCA ≥ 1 (Cuyvers et al., 2012). This means that the exporting country is a net exporter of the product (RTA>0), and its RCA in exporting the product is close to one. An RCA index equal to or greater than one means that a country is relatively specialised in exporting the product under consideration (Reis & Farole, 2012).

Step 3: Matching import demand and export supply

The import demand for each importer-and-product combination that adhered to the requirements of being regarded as large and/or growing markets are matched to the exporter-and-product combinations that display an export specialisation. Following Ferreira and Steenkamp (2020a, 2022), the analysis identifies bilateral export opportunities, which represent specific regional trade integration prospects within the SADC. These exporter-product-importer combinations are further examined to analyse the results in detail.

Step 4: Evaluating the utilisation of the bilateral export opportunities identified

Up to this stage, we have considered the total import demand and export supply of each SADC country and HS6-digit product, and then identified bilateral export opportunities by matching them. To examine the extent of utilisation of these opportunities, we calculate a potential export value for each exporter-product-importer combination and compare it with actual exports for that specific combination.

Based on Ferreira and Steenkamp (2020a, 2020b) as well as Ferreira, Steenkamp, and Rossouw (2022), the average market value of all (import) suppliers in each import market served as an estimation of the export potential value. This provides a benchmark to compare to actual exports. It shows whether the exporting country is already supplying more than the average

competitor (utilised opportunities) or less (underutilised opportunities). Actual exports can also be zero, indicating unutilised export potential.

Each of the steps described above is repeated five times to identify regional export opportunities for 2017, 2018, 2019, 2020, and 2021. This is done to account for the impact of the COVID-19 pandemic on global trade, particularly in the year 2020. Exporter-product-importer combinations that were identified either in 2021, 2020, or in two of the three years 2017 to 2019 are included in the results.

The analysis of the results primarily focuses on the un/underutilised bilateral trade opportunities within the SADC region.

To support the analysis of un/underutilised bilateral trade opportunities, import and export data per HS 6-digit product for the 16 SADC countries were collected from the *CEPII BACI* database (CEPII, 2023). The *Centre d'Études Prospectives et d'Informations Internationales* (CEPII) is a French institute for research in international economics. The BACI database relies on the Comtrade dataset of the United Nations Statistical Division. Countries report both their imports and exports to the United Nations, and naturally, two countries report the same trade flow. These reported values rarely match because import values are reported with cost, insurance, and freight on arrival in the importing country, and exports are reported on the vessel in the exporting country. BACI reconciles these trade flows by estimating and removing cost, insurance, and freight cost and removing it from import values. It also takes into consideration the reporting reliability of each country (Gaulier & Zignago, 2010).

9.6 Results

This study aims to bridge the gap between idealistic regional trade policy objectives and practical implementation. It can serve as a first step to inform priorities for regional trade promotion that may ultimately result in deeper regional trade integration in the SADC.

A total of 9,169 regional trade opportunities in the form of exporter-product-importer combinations were identified based on the selection criteria set out in the research method.[2] Of this total, 40% is considered utilised, meaning that the SADC exporter concerned already supplies an equitable portion of the demand in the SADC importing market. Another 16% are utilised to some extent, and 44% are not utilised at all, meaning that no trade is taking place regardless of the sizeable and growing import demand and the export supply capacity (of the product) within the SADC region.

Henceforth, the focus of the results is on the unutilised/untapped bilateral trade opportunities within the SADC region. A total of 4,018 untapped exporter-product-importer combinations are, therefore, the focus of the results from this point onwards.

For a bird's eye view of the results, aggregated country- and sector-level results are first discussed. Table 9.2 ranks the SADC countries based on the aggregated *unrealised potential exports* to other countries within the region.

Table 9.2 Aggregated untapped regional export potential within the SADC

Exporting country	*Sum of untapped export potential value (US$ thousand)*	*Number of untapped export opportunities3 within the SADC*
Mauritius	222,250.76	704
United Republic of Tanzania	94,959.82	412
Swaziland	94,054.60	530
Comoros	78,040.62	121
Malawi	66,177.20	262
Mozambique	52,717.23	188
Zimbabwe	50,208.44	204
Zambia	48,033.82	142
Lesotho	29,226.32	344
Madagascar	29,136.64	621
Seychelles	19,877.84	109
Democratic Republic of the Congo	15,893.35	40
Namibia	12,950.11	133
Angola	12,095.44	26
South Africa	11,980.59	112
Botswana	9,690.31	69

Source: Authors' own compilation based on results

It is evident that the majority of countries within the SADC region possess untapped export potential in 13 or more other SADC countries. This finding challenges the perception that only a select few countries stand to benefit from deeper regional integration. Instead, it highlights the broad scope for mutually beneficial trade opportunities among the SADC nations.

According to the results presented in Table 9.2, Mauritius (as an exporter) has, by far, the highest aggregated untapped export potential in other SADC countries. This potential surpasses that of the second- and third-ranked countries by more than double the value. For example, the top five importing countries that hold the highest untapped import demand for the export products of Mauritius include South Africa (US $85 million), the Democratic Republic of the Congo (US $27.6 million), Angola (US $21.4 million), Mozambique (US $18 million), and Tanzania (US $17.4 million). Export products of Mauritius with the largest export potential include fertilisers (to South Africa, Mozambique, Tanzania, and the DRC), vehicles (e.g., dumpers to South Africa, tractors to Tanzania, and concrete-mixer lorries to Zambia), and machinery and mechanical appliances (e.g., harvester-threshers to South Africa, industrial sugar manufacturing machines to Mozambique, graders and levellers to Tanzania, blow-moulding machines for rubber and plastic to Zambia, bulldozers to Angola, and front-end shovel loaders to Botswana).

It is important to keep in mind that the values presented in Table 9.2 solely represent the untapped export opportunities for each of the SADC countries

Table 9.3 Aggregated untapped regional import demand potential within the SADC

Importing country	*Sum potential value (US$ thousand)*	*Number of untapped opportunities[4] for exporting countries within the SADC*
South Africa	168,728.93	260
Democratic Republic of the Congo	102,217.19	441
Angola	79,402.79	310
United Republic of Tanzania	74,974.32	289
Madagascar	74,906.24	297
Seychelles	66,645.08	595
Malawi	59,535.09	183
Mozambique	55,139.16	339
Zimbabwe	34,821.61	227
Zambia	31,020.34	308
Namibia	29,983.86	47
Mauritius	27,478.38	346
Botswana	22,435.21	63
Lesotho	8,545.59	27
Comoros	6,425.80	229
Swaziland	5,033.50	56

Source: Authors' own compilation based on results

in its role as an exporter. It may be surprising to find that South Africa, for instance, does not rank higher. However, this is due to the fact that South Africa has already tapped into the export opportunities within the region to a much larger extent than other countries. As a result, the total value of untapped opportunities, where no trade is currently taking place, remains comparatively lower for South Africa than for other countries.

Table 9.3 ranks the SADC countries from the perspective of *import demand potential* that remains untapped by exporters within the region.

South Africa holds the largest untapped import demand for exporting countries within the SADC region, followed by the Democratic Republic of the Congo. This implies that this import demand is supplied from countries outside the SADC region. As explained in the research method, the concentration of these suppliers was taken into consideration in the selection process. Therefore, the trade opportunities listed here are not concentrated or dominated by only a few other, large competitors and do have room for suppliers from within the region.

Examples of SADC exporters for whom there are high-valued untapped opportunities within the South African market include frozen sardines from Angola, dumper trucks and sinking and boring machinery from Malawi, fertilisers from Mozambique, cotton yarn from Lesotho, veterinary vaccines from Seychelles, flat-rolled, aluminium coated products of iron and steel from Tanzania, and roasted malt from Zimbabwe.

The Democratic Republic of the Congo holds untapped potential for paper exercise books from Botswana, road rollers from Comoros, wheat flour and maize meal from Lesotho, grinding balls for mills of iron/steel from Malawi, frozen fish from Mozambique, medicine containing penicillin from Mauritius, boneless frozen meat cuts from Namibia, passenger motor cars from South Africa, chewing gum from Swaziland, and cane sugar and cigarettes from Zimbabwe, for example.

Figures 9.2 and 9.3 provide a visual representation of the sectoral distribution of the untapped regional trade opportunities within the SADC, showcasing both the potential value and the number of opportunities available in each sector.

The results aggregated across all SADC countries and products reveal the highest untapped potential value for transport products, chemicals, food, vegetable products, wood products, machinery, electrical products, and textiles and clothing. When considering the number of opportunities, textiles and clothing emerge as a prominent sector within the SADC region (1,194 exporter-product-importer combinations). The high unit value of transport products, including tractors, dumpers, and cement lorries, is evident from the relatively low number of importer-product-exporter combinations within this top-ranked sector in value terms, which amounts to only 83 combinations.

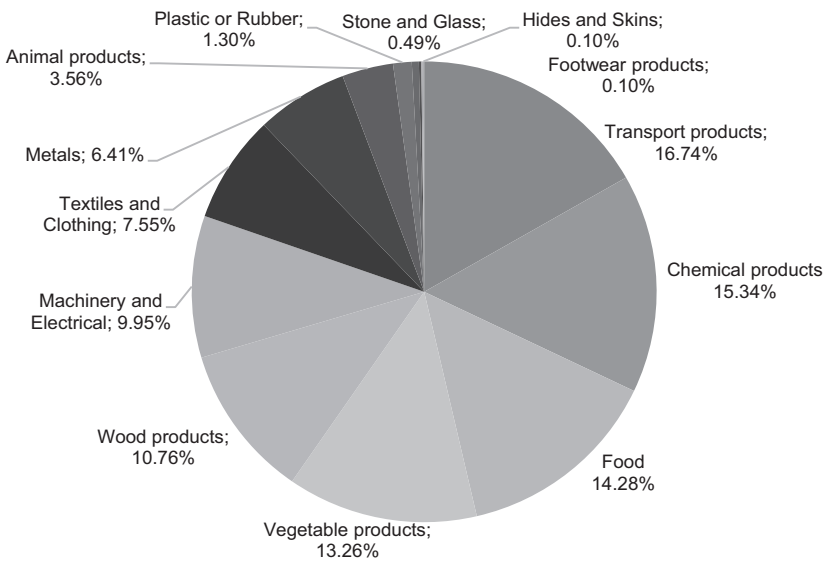

Figure 9.2 Sector distribution of untapped regional trade opportunities in the SADC, based on untapped potential export values

Source: Authors' own compilation based on results

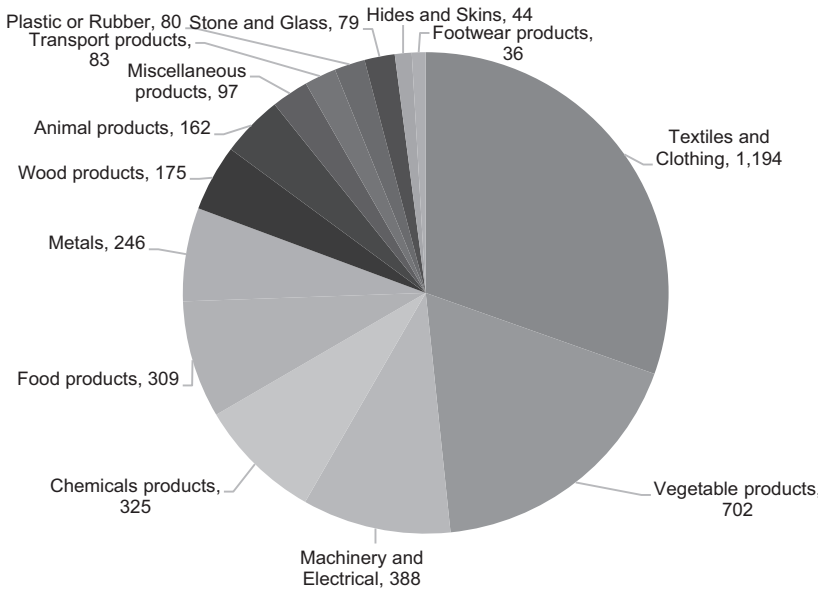

Figure 9.3 Sector distribution of untapped regional trade opportunities in the SADC (based on the number of untapped export opportunities)

Source: Authors' own compilation based on results

Machinery and electrical, as well as food and vegetable products, keep featuring among the sectors with the largest potential, both in terms of value and number of opportunities. Regional trade promotion and integration in food processing can also potentially contribute to the pressing issue of food security in the SADC. Furthermore, the importance of trading in value-added goods for the sake of regional integration via the developmental approach is highlighted in the literature section. Transportation and machinery, for instance, are higher value-added sectors, and the promotion of trade in these products should be prioritised to reap the developmental benefits of regional integration.

To be more specific, Tables 9.4 and 9.5 list the export-product-importer combinations within the transport sector, which is ranked first in terms of potential value, and the textiles and clothing sector, which is ranked first in terms of the number of opportunities.

The detailed results, on an exporter-product-importer level, provide very specific and practical information that can serve as a basis for further investigation and action in realising the regional trade potential within the SADC. While these results may not provide all the answers to the policy implementation challenges in the region, they offer a practical starting point for worthwhile further investigation and action.

Table 9.4 Top 20 regional trade opportunities in the transport sector

Exporter	*Product HS code*	*Product description*	*Importer*	*Potential trade value (US$ thousand)*
Comoros	890392	Motorboats: (other than outboard motorboats), for pleasure or sports	Seychelles	29,706.78
Comoros	890399	Yachts and other vessels: for pleasure or sports, rowing boats and canoes	Seychelles	20,895.95
Mauritius	870410	Vehicles: dumpers, designed for off-highway use, for transport of goods	South Africa	11,535.20
Malawi	870410	Vehicles: dumpers, designed for off-highway use, for transport of goods	South Africa	10,932.91
Mauritius	890200	Fishing vessels, factory ships, and other vessels: for processing or preserving fish	Namibia	7,207.55
Mauritius	890391	Sailboats: with or without auxiliary motor, for pleasure or sports, other than inflatables	Seychelles	6,699.51
Comoros	890190	Vessels: for the transport of both goods and persons (excluding refrigerated vessels, tankers, ferryboats, and vessels primarily designed for the transportation of persons)	South Africa	4,333.34
Mauritius	890190	Vessels: for the transport of both goods and persons (excluding refrigerated vessels, tankers, ferryboats, and vessels primarily designed for the transportation of persons)	South Africa	4,333,.34
Mauritius	870120	Tractors: road, for semi-trailers	Zambia	3,917.62
Malawi	870410	Vehicles: dumpers, designed for off-highway use, for transport of goods	DRC	3,616.33
Swaziland	870410	Vehicles: dumpers, designed for off-highway use, for transport of goods	DRC	3,616.33
Mauritius	870120	Tractors: road, for semi-trailers	Tanzania	3,506.89
Swaziland	871120	Motorcycles (including mopeds) and cycles: fitted with an auxiliary motor, reciprocal	Tanzania	3,433.39
Mauritius	880211	Helicopters: of an unladen weight not exceeding 2000 kg	South Africa	2,956.15
Seychelles	890110	Cruise ships, excursion boats and similar vessels, principally designed for the transportation of persons, ferryboats of all kinds	Tanzania	2,523.94

(*Continued*)

Table 9.4 (Continued)

Exporter	*Product HS code*	*Product description*	*Importer*	*Potential trade value (US$ thousand)*
South Africa	870324	Vehicles: spark-ignition internal combustion reciprocating piston engine	DRC	2,462.54
Comoros	870423	Vehicles: compression-ignition internal combustion piston engine (diesel or semi-diesel)	Namibia	2,115.90
Comoros	870423	Vehicles: compression-ignition internal combustion piston engine (diesel or semi-diesel)	Zimbabwe	1,815.07
Angola	890200	Fishing vessels, factory ships, and other vessels: for processing or preserving fish	Mozambique	1,638.37
Comoros	890200	Fishing vessels, factory ships, and other vessels: for processing or preserving fish	Mozambique	1,638.37
Comoros	870423	Vehicles: compression-ignition internal combustion piston engine (diesel or semi-die	Zambia	1,452.85
Mauritius	870130	Tractors: tracklaying	Botswana	901.94
Mauritius	890391	Sailboats: with or without auxiliary motor, for pleasure or sports, other than inflatables	South Africa	714.59

Source: Authors' own compilation based on results

To illustrate the level of detail that the results hold, Figure 9.4 visualises the untapped export opportunities for men's jackets between SADC countries on a map. Each exporting country is assigned a different colour, and the thickness of the lines in the figure shows the relative size (in value terms) of each opportunity and the destination country identified. These sampled results reveal that intra-regional trade promotion can achieve higher efficiency by targeting the untapped export supply and import demand matches, where no trade is currently taking place.

From a regional development perspective, it is important also to identify country-pairs within the SADC that present mutual opportunities for both importers and exporters. The top 25 are therefore listed in Table 9.6.

To illustrate the depth of the results, it is worth highlighting trade opportunities between the top five country-pairs that exhibit significant untapped potential values exceeding US $3 million. These opportunities encompass a diverse range of products and destinations within the SADC region. Noteworthy examples include the export of fertilisers and dumpers for the transport of goods from Mauritius to South Africa; motorboats and yachts from Comoros to Seychelles, and rope/cables/twine from Seychelles to

Table 9.5 Top 20 regional trade opportunities in the textiles and clothing sector

Exporter	*Product HS code*	*Product description*	*Importer*	*Potential trade value (US$ thousand)*
Swaziland	600490	Fabrics: knitted or crocheted (excluding pile, fabrics, looped pile fabrics, labels, badges & impregnated, coated, covered or laminated knitted or crocheted fabrics)	Lesotho	5,980.97
Tanzania	600622	Fabrics: dyed cotton, knitted or crocheted	Madagascar	2,797.09
Swaziland	600622	Fabrics: dyed cotton, knitted or crocheted	Madagascar	2,182.69
Swaziland	550200	Fibres: artificial filament tow	South Africa	2,129.56
Mauritius	520849	Fabrics, woven: containing 85% or more by weight of cotton, of yarns of different colours	Swaziland	1,920.46
Lesotho	520513	Cotton yarn: (not sewing thread), single, of uncombed fibres, 85% or more by weight	South Africa	1,097.61
Mauritius	560311	Nonwovens: whether or not impregnated, coated, covered, or laminated, of man-made filaments	Angola	1,076.59
South Africa	520849	Fabrics, woven: containing 85% or more by weight of cotton, of yarns of different colours	Madagascar	1,025.83
Malawi	630533	Sacks and bags: of a kind used for the packing of goods, of man-made textile material	South Africa	948.60
Tanzania	630533	Sacks and bags: of a kind used for the packing of goods, of man-made textile material	South Africa	948.60
Swaziland	600622	Fabrics: dyed cotton, knitted or crocheted	Lesotho	807.06
Tanzania	600622	Fabrics: dyed cotton, knitted or crocheted	Lesotho	807.06
Malawi	520512	Cotton yarn: (not sewing thread), single, of uncombed fibres, 85% or more by weight	Mauritius	791.08
Madagascar	630532	Sacks and bags: of a kind used for the packing of goods, of man-made textile material	DRC	783.62
Madagascar	550190	Fibres: synthetic filament tow, of synthetic materials (excluding that of acrylic, modacrylic, polyesters, polypropylene, nylon, or other polyamide filament)	Tanzania	783.03

(*Continued*)

Table 9.5 (Continued)

Exporter	*Product HS code*	*Product description*	*Importer*	*Potential trade value (US$ thousand)*
Lesotho	510111	Wool (not carded or combed): greasy (including fleece-washed wool), shorn	Mauritius	743.91
South Africa	510111	Wool (not carded or combed): greasy (including fleece-washed wool), shorn	Mauritius	743.91
Swaziland	630533	Sacks and bags: of a kind used for the packing of goods, of man-made textile material	Zambia	721.69
Swaziland	521132	Fabrics, woven: containing less than 85% by weight of cotton, in three-thread or four-thread twill, including cross twill dyed	Madagascar	685.65
Tanzania	520512	Cotton yarn: (not sewing thread), single, of uncombed fibres, 85% or more by weight	Mauritius	642.17
Malawi	630533	Sacks and bags: of a kind used for the packing of goods, of man-made textile material	DRC	513.08
Swaziland	630533	Sacks and bags: of a kind used for the packing of goods, of man-made textile material	DRC	513.08
Madagascar	621040	Garments: men's or boys' garments of textile fabrics, rubberised, impregnated, coated, covered or laminated with plastics or other substances (excluding baby's garments or clothing accessories)	Malawi	506.45
Mauritius	600632	Fabrics: knitted or crocheted fabrics, other than those of headings 60.01 to 60.04,	Swaziland	458.92
Madagascar	630790	Textiles: made up articles (including dress patterns)	Namibia	427.26

Comoros; rice cereals from Tanzania to Mozambique, and aluminium wire (>7mm) from Mozambique to Tanzania; fertilisers, wheat flour, and sugar from Mauritius to the Democratic Republic of the Congo; and, finally, frozen sardines and paper/paperboard from Tanzania to South Africa.

It is important to emphasise that these country-pair matches, along with others beyond the top 25 listed in Table 9.6, offer valuable insights for prioritising regional infrastructure development and trade facilitation initiatives within the SADC.

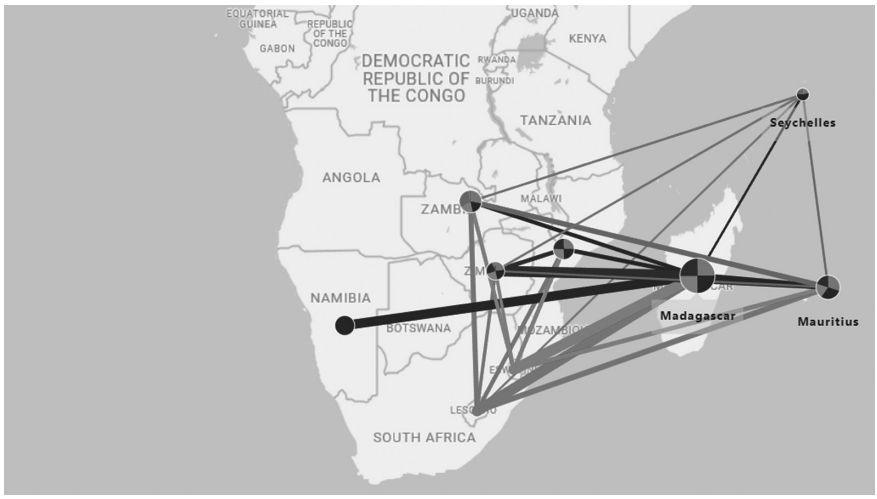

Figure 9.4 Untapped trade opportunities for men's jackets between SADC countries
Source: Authors' own compilation based on results

Figure 9.5 illustrates all untapped bilateral trade opportunities in the SADC (excluding commodities and livestock products, as this study focuses on diversification and value-add in regional trade). The thickness of the lines between two countries represents the sum of the untapped export potential values between each set of trading partners in both directions. Thicker lines indicate higher total untapped trade potential, while thinner lines signify lower total potential.

Intra-regional trade in the SADC remains low and the figure above shows many unrealised trade opportunities in the region that can be explored. By considering mutual opportunities and specific product exchanges, policy-makers and stakeholders gain essential information to guide their decision-making processes and focus their efforts on fostering regional integration and enhancing trade within the SADC.

9.7 Conclusion

Regional trade and integration hold great potential for establishing new networking interactions, expanding intra-regional trade, and accessing new markets. This increased trade has the potential to address export competitiveness constraints, improve infrastructure, and facilitate both regional and global trade. The pooling of economies through regional integration should also create economies of scale. However, historical progress in the SADC in this area has been limited, and significant structural and policy challenges still need to be overcome.

While addressing these challenges will take time, it is crucial to identify trade opportunities to enhance intra-regional trade, which currently

Table 9.6 Top 25 country-pairs in terms of aggregated untapped trade potential within the SADC

Product category (HS2)	*Sum of export potential value (US$ thousand)*	*Number of untapped trade opportunities between SADC countries*
Mauritius -> <- South Africa	86,378.45	86
Comoros -> <-Seychelles	51,025.06	24
United Republic of Tanzania -> <- Mozambique	31,244.85	50
Mauritius -> <- Democratic Republic of the Congo	27,931.48	105
United Republic of Tanzania -> <- South Africa	25,096.93	63
Mauritius -> <- Angola	23,904.05	74
United Republic of Tanzania -> <- Madagascar	23,020.88	87
Malawi -> <- Democratic Republic of the Congo	21,910.05	35
Mauritius -> <- United Republic of Tanzania	21,907.78	122
Malawi -> <- South Africa	19,297.30	18
Mauritius -> <- Mozambique	19,114.51	111
Zimbabwe -> <- Malawi	18,125.75	20
Zimbabwe -> <- Democratic Republic of the Congo	17,137.27	33
Swaziland -> <- United Republic of Tanzania	14,666.38	62
Zambia -> <- Malawi	13,855.53	14
Swaziland -> <- Democratic Republic of the Congo	13,791.90	59
Zambia -> <- Madagascar	13,681.46	93
Swaziland -> Angola	13,587.09	35
Swaziland -> <- Malawi	13,528.34	27
Mauritius -> <- Madagascar	12,571.69	61
Mauritius -> <- Zambia	12,271.30	100
Zimbabwe -> <- Madagascar	10,698.55	65
United Republic of Tanzania -> <- Angola	10,602.20	43
Mozambique -> <- Democratic Republic of the Congo	10,486.48	24
Mauritius -> <- Namibia	10,442.26	27

Source: Authors' own compilation based on results

remains at a low level. Policies related to intra-regional trade and integration in the SADC have often been broad and idealistic, lacking proper implementation of protocols. This study aims to bridge this implementation gap by providing information on untapped opportunities for real intra-African trade.

Specific untapped intra-regional trade opportunities were identified at an importer-product-exporter level within the SADC region. Being untapped means that, regardless of the consistently large and growing import demand for the product that can be matched with competitive export supply within the region, there has been no actual trade over the five years under investigation.

The study identified a total of 4,016 untapped matched opportunities between the 16 SADC countries from 2017 to 2021. Importantly, mutual opportunities were identified for all SADC countries, highlighting that each country has untapped trade potential with multiple countries in the

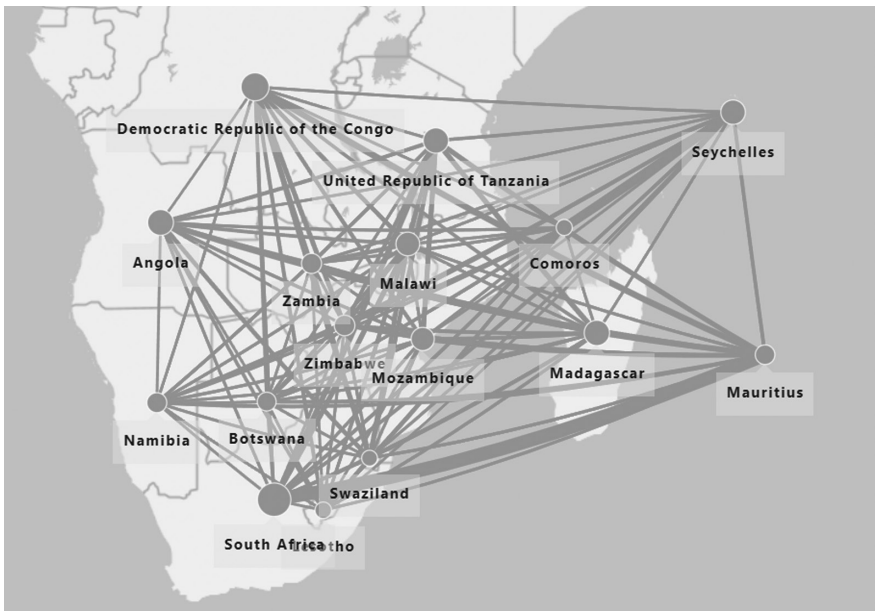

Figure 9.5 Illustration of all untapped, value-add trade opportunities in the SADC
Source: Authors' own compilation based on results

region. Therefore, all SADC countries can benefit from trade integration within the region rather than just a select few. The results also reveal high-value untapped trade opportunities in, *inter alia*, sectors such as transportation and machinery, as well as numerous opportunities in textiles and clothing products. Realising this potential could serve as an initial step towards increased competitiveness and even expanded industrialisation throughout the region.

The country-pair matches in Table 9.6 can inform the prioritisation of regional development strategies. Establishing infrastructure links between countries and targeting hindrances to trade between specific countries, and in prioritised sectors, can go a long way towards a more integrated region to the benefit of all.

Finally, if SADC policymakers can support countries in tapping into the unexplored regional trade potential that is currently being utilised by countries outside the region, it can be a first step toward reaping the benefits of regional trade integration. These benefits include new networking interactions, deeper cooperation, technology transfer, knowledge exchange, reduction of regional disparities, better resource allocation and efficiency, increased competitiveness, a larger market, and economies of scale.

Notes

1 The Harmonised System (HS) is an international nomenclature for the classification of products. It enables countries to categorise traded items uniformly, facilitating customs procedures. All countries employ the same HS codes up until the six-digit level.
2 Livestock and commodities were excluded in line with the developmental approach to regional integration discussed in the literature section. This approach recognises diversification and value-add in trade for the sake of scaling up supply capacity and regional production networks (see Section 9.2).
3 Product-and-importer combinations.
4 Product-and-exporter combinations.

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10 Regional integration and industrialisation in the SADC

A comparative analysis of developing regions

Ockert R. Pretorius

10.1 Introduction

Countries and regions, such as the Southern African Development Community (SADC) and its members, compete in the global flow of trade and factors of production, including capital, labour, and technology (Maryam & Jehan, 2018). The pro-active positioning of a regional economy through targeted regional policy, seeking to catalyse and attract domestic and foreign investment, skilled workers, and the acquisition of advanced technology, is a central component of New Regionalism (Pike et al., 2016; Petach, 2021), which seeks to support innovation, increased productivity, and long-term regional economic growth. The prominence of the subcontinental region, and its competitiveness in global markets, has been enhanced by the COVID-19 pandemic and its impact on international trade, which has accelerated trends towards increased regionalisation, or geographic diversification, of supply chains (Hoekman et al., 2020. This is to mitigate the inherent vulnerability of 'stretched global supply chains' that are at a 'breaking point' (Park et al., 2020: 8). This trend is further indicated by the perceived broader retreat of globalisation (Yamak, 2021). The motive for increased regionalisation is associated with a reduction in the distance between producers and consumers, which fosters a degree of regional self-sufficiency to support resilience to external demand fluctuations and supply disruptions (Kerr, 2020). This creates opportunities for strengthening regional production and supply chains built on increased factor mobility and trade within regions, while also catalysing competition among regions in attracting investment and capital inflows.

However, the competitiveness of the SADC in global trade and factor flows is undermined by continued dependence on extractive, primary sector activities. Commodity exports are subject to significant price fluctuations, as per the Prebisch-Singer Hypothesis (Qobo & Le Pere, 2018), which precipitates unstable economic growth. The lower value-added characteristic of extractive activities – compared to the industrial and services sectors – affects the growth potential of the region's share of global value chains (GVCs) (Moyo, 2020). This dependence also places downward pressure on the growth of other sectors and the subsequent economic diversification, which is central

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to economic resilience to external disturbances (Tandrayen-Ragoobur & Kasseeah, 2018). SADC's competitiveness is also affected by underdeveloped infrastructure (Campos, 2023), political instability (Michael, 2019), and trade barriers.

Deeper regional integration and increased industrialisation have the potential to support the competitiveness of developing regions, including the SADC, in this regard (also refer to Chapter 3). Reduced tariff and non-tariff barriers to trade, within a linear process of increased economic and spatial integration, stimulate intra-regional exports and factor mobility (Pretorius et al., 2021), strengthen regional functional linkages, and create an environment conducive to foreign and domestic investment (Muntschick, 2020). Inherent to industrialisation are sectoral transformation and increased factor productivity, enabled through capital formation and investment inflows (Bokosi, 2022), technology acquisition (Shikur, 2020), as well as diversification and economic resilience (Songwe, 2019), which constitute central components of long-term regional economic growth. Accordingly, regional integration and industrialisation are key pillars in SADC regional policy (cross-reference to Chapter 2) delineated by its relevant supranational institutions towards achieving broad socio-economic development objectives, including employment creation, economic growth, poverty alleviation, and social and political stability in the region (SADC, 2020a).

Within the context of its competitiveness in global markets, this chapter aims to analyse the comparative state of regional integration and industrialisation in the SADC by assessing the region's performance in diverse variables related to these pillars of regional policy. The objectives inherent hereto are to explore the synergy between regional integration and industrialisation in enhancing regional competitiveness and the achievement of socio-economic development outcomes in the context of developing regions; to undertake a comparative analysis of the SADC's performance in the mentioned regional integration and industrialisation variables with that of other developing regions to ascertain its positioning in this regard, and to delineate policy recommendations towards strengthening the region's competitiveness.

The unique contribution of this chapter lies both in its assessment of diverse variables relevant to regional integration and industrialisation in the SADC, as well as the subsequent comparative analysis of performance among developing regions in this regard. This signifies a multidimensional approach that is currently not extensively incorporated in research on regional policy in the SADC. In addition, this approach enables evidence-based recommendations towards performance improvement, both in terms of regional integration and industrialisation, as well as concerning broader competitiveness. In terms of methodology, the chapter applies a quantitative analysis through secondary data utilisation in undertaking the analysis of ten regions consisting of developing countries, including the SADC. The following section provides a theoretical overview of regional integration, industrialisation, and the role of their interaction in driving socio-economic development in developing

regions such as the SADC. This is followed by the methodology, findings, discussion of the comparative analysis, and the conclusion section.

10.2 Literature review

The literature review is anchored on themes related to industrialisation, regional integration, their synergy in catalysing economic growth in developing regions, and related policies and institutions in the SADC.

10.2.1 Industrialisation and regional economic growth

Industrialisation, and the process of sectoral transformation of an economy based on primary activities to one characterised by increased industrial and manufacturing output, is central to long-term economic growth and development. Factors of production play a role in this process in developing regions, with surplus labour from agricultural activities transferring to manufacturing activities that offer higher wages (Lewis, 1954). Increased labour productivity in the region catalyses capital formation and the ability to acquire advanced technology (Ali & Harvie, 2018), with the latter increasing productivity by enabling the more efficient utilisation of resources such as raw materials (Shikur, 2020; Bokosi, 2022). Resultant economies of scale foster the development of competitive advantage in production through lower cost per unit output, increased demand, and greater market share. The process of increased capital formation, technology acquisition, productivity growth, lower costs, and higher demand stimulates a multiplier effect central to regional economic growth. Additional factors that influence industrialisation in a region are the availability of infrastructure and skilled labour, a conducive environment for investment (Wetengere, 2018), sufficient access to markets and demand, as well as innovation by firms and entrepreneurs that oversee a continuous process of 'creative destruction' that foster long-term sectoral transformation (Pattanayak & Padhy, 2022: 41632).

An industrialised economy is characterised by production systems that add value to raw materials extracted in the primary sector by using them as inputs in manufacturing final products with inherently higher functionality, demand, and value on regional and global markets (Kabwe, 2020). These goods and services may then be exported at higher prices compared to primary commodities, increasing firms' profits and output. The industrial sector also has higher productivity, producing more goods and services, output growth and employment opportunities (Zeddoun et al., 2023). Demand for manufactured products also catalyses the development of tertiary activities, such as transport services, finance providers, and logistical activities associated with aspects of production and consumption. Accordingly, through a process of region-wide industrialisation, horizontal (within the secondary sector) and vertical (within the economy) diversification takes place (Pretorius et al., 2021), which supports economic resilience by mitigating vulnerability

to external demand fluctuations and other potential shocks. Industrialisation thus has the potential to enhance standards of living and reduce poverty.

Despite the importance of industrialisation, developing countries face significant challenges in catalysing this process of sectoral transformation. These include the established competitive advantages of developed countries in the manufacturing sector (Zhou et al., 2018), attributed to significant capital formation, skilled labour, availability of advanced technology, and productivity; the limited viability of firms in developing countries acquiring advanced technology on the back of relatively small domestic markets and consumer demand (Menon & Fink, 2019); and fluctuating the fluctuating income and demand related to commodity exports (Qobo & Le Pere, 2018). This hinders the required development of economies of scale and associated competitive advantages.

10.2.2 Regional integration in response to challenges of industrialising

In light of these challenges, developing countries of regional geographic proximity have increasingly sought to foster closer ties and increase interaction within the framework of regional integration, which supports the regionalisation of trade between member countries and increased cross-border mobility of factors of production within said 'region' (Okwara, 2020). This is enabled by both economic and spatial integration, with the former focussed on removing tariff barriers to trade, such as duties and quotas levied on imports from partner countries, in addition to the standardisation of trade policies and related regulations (Pretorius et al., 2021). One approach to implementing economic integration is through a linear process of increased interaction and harmonisation, from the signing of a preferential and free trade agreement (FTA) to the establishment of a customs union with a common trade tariff placed on imports from outside the region. This single market enables the free movement of factors of production and an economic and monetary union with fully harmonised fiscal and monetary policy (Yordanov, 2019). The increased intra-regional movement of traded goods and factors is enabled by initiatives towards spatial integration, which serves as physical linkages between producers, consumers, and countries in the region (Müller-Mahn, 2020). This forms part of mitigating non-tariff barriers to trade and includes the development and improvement of both physical and non-physical infrastructure. Physical infrastructure constitutes the roads, rail, waterways, and ports that facilitate connectivity, while non-physical infrastructure refers to border and customs procedures, the quality of logistics service providers, systems for tracking and tracing of trade goods, etc.

Creating a regional market with the fusion of smaller national economies through effective economic and spatial – and thus regional integration – may extract the potential for industrialisation in developing regions (Balassa, 1961; Bala, 2017; Tsakok, 2021). The flow of labour, capital, and technology is more efficient and towards locations of highest return, while also

enabling the circulation of ideas and information between member countries, catalysing innovation. The viability of firms' acquisition of advanced technology is also more pronounced due to access to a larger market and potential demand, driving productivity and economies of scale (Tanyanyiwa & Hakuna, 2014). The respective competitive advantages of member countries may be leveraged to develop regional value chains (RVCs), where national economies form part of a regional production system of specialised value addition (Rahman & Bari, 2018). The synergy between regional integration and industrialisation is further strengthened by the coordination of policy harmonisation and infrastructure investment by capacitated supranational institutions. This creates an environment conducive to foreign direct investment (FDI) that is attracted to the access offered to a sizeable regional market (Ademuyiwa & Uneze, 2014) and predictable future policy decisions anchored in a linear process of increased integration (Robinson & Thierfelder, 2002).

10.2.3 Regional integration and industrialisation in the SADC

Supporting regional integration and industrialisation is a central objective of SADC regional policy (cross-reference Chapter 2). The region's Vision 2050, which seeks to 'effectively plan and operationalise the future' of the SADC, identifies the synergy of industrial development and market integration (Pillar One) in creating a 'competitive, middle- to high-income industrialised region' (SADC, 2020a:2). Inherent hereto is to deepen regional integration; connect the region to external, global markets, enabling a competitive environment conducive to investment; and fostering innovation through technology acquisition (SADC, 2020a). The Regional Indicative Strategic Development Plan (RISDP), further elaborating on the strategic objectives related to Pillar One, identifies the need for the development of RVCs for 'inclusive industrialisation', where small- and medium-sized firms from member countries contribute to value addition in sectors of potential regional specialisation, including 'agro-processing, mineral beneficiation, pharmaceuticals, leather, textile and clothing, tourism, and services' (SADC, 2020b: 49). Additional requirements include increased trade openness, regional market access, and intra-regional trade.

The second pillar of Vision 2050 is developing non- and physical infrastructure that constitute a regional network that is 'quality, interconnected, integrated, and seamless' to make cross-border transportation of traded goods and services more affordable and efficient in aid of deeper integration (cross-reference Chapter 6) (SADC, 2020a: 6). In 2008, the region adopted the Spatial Corridor Development Strategy (SCDS), which sought the development of numerous trade routes to physically facilitate intra-regional trade and create 'a vehicle to cover the infrastructure deficit in the region' (SADC, 2019: 69). However, as per the RISDP, to further enhance trade facilitation, additional objectives are centred on non-physical infrastructure provision,

including increased market access, interoperability, and more efficient border procedures (SADC, 2020b).

Towards this end, supranational institutions are central to implementing regional policy focussed on increased regional integration and industrialisation in the SADC. This is with specific reference to the SADC Secretariat, which is 'responsible for strategic planning, coordination and management of SADC programmes' relevant to trade, industry, finance and investment, infrastructure and services, food agriculture, and natural resources, as well as policy planning and resource mobilisation (SADC, 2022a). Additional institutions include the SADC National Committee, which provides national-level input on regional policies and strategies (SADC, 2022b), and the Sectoral and Cluster Ministerial Committees, which integrate, monitor, and control the direct implementation of regional policy and programmes – such as those delineated in the RISDP – within their diverse functional areas (SADC, 2022c). Due to their importance in this regard, regional objectives include 'securing fully capacitated and functional SADC institutions' (SADC, 2020b: 11).

10.3 Methodology

A central objective of this chapter is to undertake a comparative analysis of the performance of the SADC with that of other developing regions in terms of regional integration and industrialisation variables. Delineating the position of the SADC within this more global context informs the subsequent development of policy recommendations towards strengthening related outcomes and enhancing the competitiveness of the SADC, among developing regions, in the international flow of trade and factors of production. Accordingly, a quantitative analysis of secondary data is undertaken to compare the performance of the regions in terms of numerous variables relevant to these two pillars of regional policy. These variables are extracted from the above literature review (Section 10.2). The value attributed to each region for the respective variables is based on the average of its individual member countries due to limitations in regionally aggregated data availability. The exception here is for the *intra-regional trade* variable. The data from the most recently available year is utilised for each member country.

Based on these values, the regions are positioned based on the Standard Competition Ranking system (Zhang et al., 2023), with the output of the analysis being the ranking of the SADC for each variable associated with regional integration (1–7) and industrialisation (8–14). These variables, their associated data and year, and the relevant databases are indicated in Table 10.1.

The sample includes ten regions, selected based on criteria that include that they have actively sought increased economic and spatial integration through trade liberalisation and regional infrastructure development; regionalisation is between predominantly developing countries; and that this process

Table 10.1 Variables, data, and database utilised in the quantitative analysis

Variable	*Data*	*Year*	*Database*
Industrialisation			
1. Industrial sectoral contribution	Industry (as a % of GDP)	2020	UNCTADstat
2. Industrial exports	Manufacturing exports per capita	2020	UNIDO
3. Industrial employment	Manufacturing employment as % of total employment	Latest available	ILOSTAT
4. Labour productivity	Output per worker (GDP constant 2015 US dollar)	2022	ILOSTAT
5. Industrial value-add	Manufacturing value added per capita	2020	UNIDO
6. Capital formation	Gross Capital Formation (as a % of GDP)	2020	UNCTADstat
7. Industrial competitiveness	Competitive Industrial Performance Index	2020	UNIDO
Regional integration			
8. Intra-regional trade	Intra-trade in merchandise (% of total trade)	2021	UNCTADstat
9. Trade openness	Total trade in goods and services (as a % of GDP)	2021	UNCTADstat
10. Import tariffs	Import tariff rates on non-agricultural and non-fuel products, annual	Latest available	UNCTADstat
11. Labour mobility	Personal remittances (% of GDP)	Latest available	UNCTADstat
12. Non-physical infrastructure	Logistics Performance Index (LPI): customs; international shipments; logistics quality and competence; tracking and tracing; timeliness	Latest available	World Bank
13. Physical infrastructure	LPI: infrastructure	Latest available	World Bank
14. Investment inflows	FDI inflows (% of GDP)	2021	UNCTADstat

Source: Compiled by the author.

is overseen by supranational institutions through regional policy development. Included in the sample, in addition to the SADC, are the developing regions of the Association of Southeast Asian Nations (ASEAN), the Central American Common Market (CACM), the Andean Community (CAN), the Caribbean Community (CARICOM), the Central African Economic and Monetary Union (CEMAC), the East African Community (EAC), Mercado Común del Sur (MERCOSUR), the South Asian Association for Regional Cooperation (SAARC), and the West African Economic and Monetary Union (WAEMU). The following section provides the findings of the comparative analysis of developing regions. Due to data limitations, CARICOM

(variables 2,5,7,12,13), WAEMU (2,5,7), CEMAC (3,11), and MERCOSUR (8) are excluded from the rankings of selective variables.

10.4 Findings

In line with the objectives of the chapter, this section is structured based on the two components of the comparative analysis, namely regional integration and industrialisation.

10.4.1 Industrialisation comparative analysis

Figure 10.1 indicates the ranking of the SADC in terms of the seven variables associated with its industrialisation performance.

The first three variables are reflective of the regional comparison in terms of the contribution of the industrial sector to the economy, exports, and employment. Concerning the industrial sector as a percentage of production, the SADC ranks fifth among the sample developing regions with an average value of 28.31%. This is higher than the sample average of 27.70%, with the lowest-ranking region being the CARICOM with 21.82%. The leading region in this variable is the ASEAN (37.12%). Industrial exports (in terms of manufacturing exports per capita) indicate similar regional rankings, with the ASEAN in the first place (US $5,218), followed by the CACM (US $663) and the SADC

Figure 10.1 SADC ranking in industrialisation variables

Source: Adapted from ILOSTAT (2023); UNIDO (2023); UNCTADstat (2023).

(US $507). The latter is below the sample average for this variable, which is US $947. The EAC trails the rest of the sample with US $26 of manufacturing exports per capita. The ranking trends related to industrial contribution change, however, when considering industrial employment, which is based on the percentage of total employment attributed to the manufacturing sector. In this variable, the SADC ranks seventh (7.55%), below the CAN (9.98%), the MERCOSUR (11.12%), and the ASEAN (12.21%). The SADC is below the sample average of 9.90%, and substantially below the leading region, the CACM (13.06%). Labour productivity, on the other hand, measures the efficiency of workers based on the annual output produced (Liu, 2019). The higher the labour productivity, the higher the rate of industrialisation due to increased productivity associated with manufacturing activities compared to those in the agricultural sector. The SADC ranks seventh in the region, with an average of US $8,051 output produced per worker (GDP constant 2015 US$), which is below the sample average of US $12,726 and US $23,778 produced by the leading region, the ASEAN. In comparison, the lowest-ranking region is the EAC, with annual output totalling US $2,523 per worker.

Industrial value-add, which indicates the value of the transformation of raw materials and inputs by the manufacturing sector (per capita), may be indicative of the productivity of the industrial sector and its contribution to economic output. The SADC ranks fifth in this variable, at US $349, below the sample average of US $759. The leading regions are the ASEAN (US $2,748) and the MERCOSUR (US $1,095), with the EAC ranked last (US $83). Capital formation, sourced from domestic savings, profits, and FDI, is central to the acquisition of technology for industrial productivity and output growth. Measured in terms of gross capital formation as a percentage of production, the SADC ranks fourth in this variable with 24.46%. This is above the sample average of 21.96%, which is led by the SAARC (27.28%) and the ASEAN (26.76%). The MERCOSUR ranks last at 14.60%. The competitiveness of the industrial sector, as per the competitive industrial performance (CIP) index, measures the ability of an economy to competitively produce and export manufactured goods on the global market (UNIDO, 2023). Valued from 0 to 1, with the latter being the optimal score, the CIP index is indicative of the productivity of the industrial sector, as well as its incorporation of advanced technology. The SADC is ranked sixth among the sample regions, with a CIP index score of 0.012 – substantially lower than the sample average of 0.028. The lowest-ranking region is the EAC (0.005), followed by the CEMAC (0.007), while the highest-placed regions are the ASEAN (0.091) and the MERCOSUR (0.034).

10.4.2 Regional integration comparative analysis

Figure 10.2 indicates the ranking of the SADC as it relates to the numerous variables associated with regional integration.

Intra-regional trade, measured as the percentage of total regional trade (in merchandise) that is attributed to trade with member countries, is an

Figure 10.2 SADC ranking in regional integration variables
Source: Adapted from UNCTADstat (2023); World Bank (2023).

indicator of trade liberalisation within regions (Pretorius et al., 2021). The SADC ranks sixth in this variable, with 10.57%, while the ASEAN and the CACM lead the rankings with 34.82% and 22.03%, respectively. The sample average for this variable is 14.49%, with the CEMAC (2.55%) and the CAN (6.32%) ranked lowest. Trade openness indicates the degree to which economies engage in trade, including imports and exports (UNCTADstat, 2023). It may be illustrative of the effect of regional integration initiatives, including policy harmonisation, in fostering intra-regional trade. Measured as the total trade in goods and services as the percentage of total production, the SADC is positioned in third for this variable, with a value of 81.13%. This is higher than the sample average of 70.42%, while being below the values of the CARICOM (91.54%) and the ASEAN (131.98%). The latter is illustrative of a significantly export-orientated regional economy.

Import tariffs, measured as the annual rates imposed on non-agricultural and non-fuel products, potentially indicate the tariff-related barriers to trade. The SADC has the fourth lowest import tariffs at 8.43%, higher than the CACM (4.72%), the ASEAN (4.72%), and the CAN (4.51%) while being lower than the sample average of 9.21%. The CEMAC has the highest import tariffs at 16.45%. The next variable is labour mobility, which indicates the ease of movement of workers between labour markets (Neog & Sahoo, 2020), as measured by personal remittances as a percentage of total production.

With the sample average being 5.15%, the SADC is placed fifth with 4.16%, higher than the ASEAN (3.54%), the CAN (3.06%), the EAC (2.37%), the MERCOSUR (0.45%), and the CEMAC (0.38%). The CACM is the leading region in this regard, with personal remittances as a percentage of total production being 17.49%. Investment inflows, potentially stimulated through increased regional integration, are measured by FDI as a percentage of total production. In this regard, the SADC is ranked fifth, with a variable value of 4.12%. This is higher compared to the sample average of 3.77%. The leading region is the CEMAC (8.28%), followed by the ASEAN (6.48%) and the CARICOM (5.03%). The EAC, the MERCOSUR, and the SAARC are the lowest-ranked regions, with respective values of 1.32%, 1.38%, and 1.78%.

The next two variables are centred on spatial integration, namely non-physical and physical infrastructure. The values for both are based on the Logistics Performance Index (LPI), which has numerous indicators that refer to the quality of infrastructure, rated from 1 to 5 (the latter being optimal). The LPI indicators included in measuring the quality of non-physical infrastructure in the regions are customs clearance, international shipments, logistics competence, tracking and tracing, and timeliness. Here, the ranking of the SADC is fifth (2.65), behind leaders the ASEAN (3.06), the CAN (2.76), and the MERCOSUR (2.74). The SADC is below the sample average (2.67) in this variable. The LPI also includes an infrastructure indicator that is used to determine the quality of physical infrastructure. Once again led by the ASEAN (2.80), the MERCOSUR (2.56), and the CAN (2.46), the SADC is also ranked in fifth place for this variable, with a value of 2.39 – below the sample average of 2.42.

10.5 Discussion

The discussion is centred on strengthening the position of the SADC in terms of variables related to economic and spatial integration, regional industrialisation, and the role of supranational institutions in coordinating related activities and interventions towards increased competitiveness of the SADC among developing regions.

10.5.1 Economic and spatial integration in the SADC

The findings of the analysis indicate that the SADC, through its member countries, is comparatively open for trade and has lower tariffs than other developing regions. This, in turn, may be a possible cause for its sizeable FDI inflows, which are higher than the average developing region. However, based on its positioning on intra-regional trade, a limited portion of the SADC's trade takes place between member countries. This finding, in addition to the comparatively restricted labour mobility of said countries, may be indicative of limited economic integration in the region. This is despite the potential of increased trade liberalisation reflected in the relative trade openness and low tariffs of its member countries.

Certain challenges hinder deeper economic integration in the SADC, which needs to be the focus of regional policy interventions to improve the region's positioning in related variables. This includes divergent economic policies among member countries that affect trade and investment in the region. Relevant here are differences in monetary and fiscal policy (Mhambi & Mishi, 2019), exchange rates (Olamide et al., 2022), and trade policy (Bouët & Odjo, 2021). This precipitates differences in public spending and investment priorities, contrasting quotas and tariffs on a diverse range of imports, and fluctuations in currency and related instability. Regulations on investment inflows (Hlongwane et al., 2021), labour mobility (Langalanga & Ncube, 2018), and environmental issues (Gill et al., 2019) are also divergent in the region, with the potential consequence of the uneven distribution of opportunities, investment, and growth among member countries, affecting the appetite for deeper economic integration. The latter is also influenced by the political considerations of member countries, which may prioritise national interests perceived to be at risk with increased integration (Abegunde, 2021). This includes erecting barriers to intra-regional trade to protect domestic industries from regional competitors (Wentworth & Cloete, 2022). Sizeable economic disparities among the member countries of the region (Albagoury & Anber, 2018), and thus the perceived risk of divergent benefits to increased functional and trade interaction is another factor potentially limiting commitment to economic integration. Security instability and disagreements between members may be additional factors in this regard (Joseph, 2021).

Despite these challenges and the comparatively restricted intra-regional trade, the value of this variable in the SADC has increased by 5.03% from 1995 to 2020, eclipsed among the sample regions only by the CACM (6.09%) (UNCTADstat, 2023). This is indicative of the potential for increased trade and factor flows associated with economic integration and policy harmonisation deeper than those associated with the current preferential FTA. While the SADC Protocol on Trade, signed in 1996 and amended in 2010, targeted the establishment of an FTA by 2008 and a customs union by 2010 (SADC, 2022d), these targets have not been achieved.

The findings of the analysis also indicate that the quality of trade-facilitating physical and non-physical infrastructure in the SADC is below that of the average developing region, with the region also placed behind the sample competitors. This may place additional downward pressure on intra-regional trade and broader regional integration objectives. While physical infrastructure has improved by 11.58% between 2010 and 2018 (Pretorius et al., 2022), significant challenges remain in ensuring their positive impact on the flow of goods, services, and factors of production in the SADC. Regional policy interventions ought to focus on improving the currently inadequate transport infrastructure (Nabee & Walters, 2018), applicable to poor quality roads with limited capacity, ineffective and congested ports, as well as decayed railway infrastructure. These contribute to increased transport and

production costs, limiting the competitiveness of regional exports. Cross-border linkages between member countries are also restricted, with muted infrastructure connectivity and border crossings (Habiyaremye, 2020). To mitigate these challenges, the SADC Regional Infrastructure Development Master Plan (RIDMP) recognises the 'urgent need to intensify regional transport programmes' (SADC, 2012: 8), including a focus on multimodal transport linkages and increased interconnectivity. However, significant regional investment, coordinated through targeted regional policy, is required to upgrade, and expand existing transport infrastructure and enhance cross-border linkages, within the context of the SCDS and its physical infrastructure development framework.

In terms of non-physical infrastructure, the currently limited interoperability (divergent licensing and insurance requirements, as well as vehicle usage regulations) and market access (restrictions on intra-regional logistics operations through the implementation of cabotage and access of regimes by individual countries) are affecting spatial integration (Pretorius et al., 2021) and ought to be mitigated by regional policy interventions. The efficiency of customs and border procedures is affected by insufficient processing capacity, limited coordination between member countries, insufficient technology incorporation, and duplication of procedures (Ngarachu et al., 2018). As indicated in the SADC RISDP, progress in this regard has been made through the implementation of the Simplified Trade Regime (STR) Framework, the establishment of the SADC Electronic Certificate of Origin (E-CoO), and One-Stop Border Posts (OSBPs) (SADC, 2020b). In addition, improvements are required in the tracking and tracing of traded goods in the region, with suggestions that include the establishment of an Electronic Cargo Tracking System (ECTS) to monitor the movement of goods throughout the SADC (Ntuli, 2017). It is envisioned that increased market access and interoperability will also catalyse competition among logistics service providers, improving the quality of service delivery and placing downward pressure on the cost of trade.

10.5.2 SADC RVCs and resource-based industrialisation

The findings of the analysis indicate the comparatively high contribution of the industrial sector of the SADC to the regional economy and its exports. In addition to its trade openness and lower tariffs, this may be a possible contributor to the comparatively high capital formation in the region. However, its relatively low employment may also point towards an industrial sector that consists of less labour-intensive activities, which is evident in the prominent secondary sector activities in the region, including mining, oil production, and heavy industries (Goga et al., 2019). These are relatively capital-intensive. However, an enduring dominance of the primary sector is evident from the findings, as indicated by the comparatively lower industrial value added to the economy as a result of the limited processing of

extracted raw materials and inputs after their export, as well as the SADC's lower labour productivity compared to the average developing region. These findings also point towards the limited incorporation of technology in regional production processes, despite the relatively high capital stock in the region. Potential contributing factors to the latter may be that investments are focussed on expanding the existing extractive industries, rather than a more diversified integration of technology within other activities and sectors of the regional economy. Various factors may limit technology acquisition (Mlawa & Manara, 2021), which may be mitigated by appropriate regional policy. This includes the mismanagement of the technology transfer process and limited investment by firms and governments into innovation-inducing research and development initiatives, as well as other factors such as insufficient domestic provision, the significant cost implications associated with importing advanced machinery, and potential skills shortages in key production areas.

Accordingly, based on the findings of the comparative analysis, the industrial sector in the SADC is characterised by low employment, value addition, labour productivity, and technology infusion. The cumulative effects of this are reflected in the industrial competitiveness of the region, which is below the average for a developing region. Regional policy, including the RISDP and the Industrialization Strategy and Roadmap (2015-2063) (SISR), describes the development of RVCs as a crucial driver of industrialisation in the SADC (SADC, 2015). A regional value chain (RVC) is comprised of various connected activities and production processes that are dispersed among member countries of a region, to systematically add value to raw materials and inputs produced in the region based on the unique comparative advantages and production specialisation of each contributing member country (Rahman & Bari, 2018). Diverse resource and factor endowments may contribute to said advantages and specialisation. The envisaged outcome of this process is increased intra-regional trade through the movement of inputs in regional production associated with the RVCs, improved competitiveness of regional exports on the global market, and the region attracting investment, creating employment opportunities, and fostering regional economic growth.

With specific reference to the SADC, inherent to the development of RVCs is the so-called 'resource-based industrialization' (RBI) approach, which seeks to optimise existing production advantages and specialisation of member countries in primary sector activities (SADC, 2022e). The aim of regional policy, as communicated in the RISDP, is to stimulate value addition through increased focus on agro-processing, mineral beneficiation, and associated activities in mining, leather, textile, and clothing, as well as other activities such as services (SADC, 2020b). The criteria utilised in identifying potential value chains include their growth potential, resource availability, regional participation, export markets, current and future regional competitiveness in production, complementarity in intra-regional exports, and long-term development (Mtanga & McCamel, 2019; SADC, 2022e). There are, however,

certain challenges facing the development and strengthening of RVCs, including currently limited integration with GVCs due to limited industrial capacity and the geographic location of the SADC; the dominance of the South African market and industry, which negates the potential of a balanced, regionally-integrated system of value addition encompassing various member countries; and the small domestic markets which limited technology acquisition and the development of economies of scale (SADC, 2022e).

Therefore, increased regional integration is a central component of successful RVCs (Paremoer, 2021). Regional policy interventions ought to prioritise deeper economic integration that emphasises trade liberalisation through removing tariff barriers and the harmonisation of policy and regulations, enabling the movement of resources, inputs, and factors relevant to regional production. Spatial integration, through improved quality physical and non-physical infrastructure provision, is also central in the facilitation of intra-regional trade and enabling regional industrialisation through effective value chains. The subsequent larger, regional market then has the potential to catalyse technology acquisition and economies of scale, as well as innovation, as new ideas, processes, and approaches flow between firms, sectors, and industries. RVCs, anchored in catalysing industrial value addition to labour-intensive primary sector output, and facilitated by increased regional integration, have the potential to increase industrial production, technology infusion, and labour productivity in the SADC.

One policy approach to increase SADC and its member countries' participation in GVCs is to deepen economic partnerships with non-member countries and regions, specifically in the form of external trade agreements (Eckhardt & Poletti, 2016; De Bièvre & Poletti, 2020; Hettne, 2020). This increases regional access to international markets and associated gains in inter-regional exports and investment. This approach has been implemented by various developing regions in the sample, including the ASEAN (Thangavelu et al., 2021), which has trade agreements with leading economic powers in its wider spatial context as well as globally in the form of the China-ASEAN Free Trade Area (CAFTA), the ASEAN-India Free Trade Agreement, and the ASEAN-Australia-New Zealand Free Trade Area (AANZFTA). CARICOM has an Economic Partnership Agreement (EPA) with the European Union (EU), ensuring ease of movement of trade and investment between the blocs and their member countries (Farah, 2021). Several members of the CAN, including Colombia and Peru, have individual agreements with the EU in lieu of an agreement on a regional level.

The latter approach has also been applied in the SADC, with the region signing the SADC-EU EPA in 2016, albeit with differences in access to this European market among member countries (Krapohl & Van Hout, 2019). The SADC has also joined the Tripartite Free Trade Area (TFTA), partnering with the Common Market for Eastern and Southern Africa (COMESA) and the EAC (Albagoury & Anber, 2018). This seeks to broaden market access throughout Southern and Eastern Africa. In the SADC, external market

access is often secured on a national level through bilateral trade agreements, with South Africa specifically gaining improved trade terms with the EU, Brazil, India, and other non-SADC members. Several SADC countries also form part of the African Growth and Opportunity Act (AGOA) and the African Continental Free Trade Area (AfCFTA) (Tsowou & Davis, 2021). While there is significant potential in external agreements, the SADC's pursuit thereof may be limited by its current focus on intra-regional and broader continental integration, and the negotiation complexities inherent to socio-economic and political divergence within the region.

An additional policy consideration ought to be catalysing a digital transformation in the SADC through advanced interconnectivity facilitated by adequate information communication technology (ICT) infrastructure throughout the region (Hunady et al., 2022). This would better enable firms and entrepreneurs to extract opportunities from the digital economy with increased investment in technology sectors and e-commerce (Criveanu, 2023). The latter also has the potential to connect firms with regional and global counterparts and consumers, further connecting industries and sectors with international networks of trade in goods and services. The ASEAN, among other regions, have delineated interventions in this regard, including the Digital Integration Framework Action Plan (Isono & Prilliadi, 2023), which is focussed on extracting the potential inherent to e-commerce, innovation, and competitiveness. Progress towards this end has also been made in the SADC with the adoption of the draft DTS that aims to 'digitally empower citizens' businesses and institutions, thereby maximising the impact of the use of digital technologies' (SADC, 2022f). Central in this regard would be the continuous proliferation of ICT infrastructure and capacity in the region.

In addition to identifying key sectors relevant to regional competitive advantages and specialisation, regional policy and institutions ought to focus on strengthening partnerships between diverse stakeholders, including private firms and governments of member countries, to foster increased collaboration, targeted investment, and joint efforts that are central to strengthening RVCs (SADC, 2015; Black et al., 2021). In addition, the capacity of entrepreneurs, firms, policymakers, regulators, and workers to participate in activities related to the value chains needs to be enhanced through targeted human resource development (Maponga & Musa, 2021), which may be based on training and skills programmes, as well as increased research and development initiatives.

10.5.3 SADC institutions

The supranational institutions of the SADC, with specific reference to the Secretariat, constitute a central stakeholder in furthering regional integration and industrialisation in the region. Mlambo (2020: 41) states that 'there is no doubt that successful regional integration will solely depend on the extent to which there exist regional institutions with adequate competence and

capacity' to coordinate the complex process. In addition to facilitating capacity building and coordinating partnerships between stakeholders, these institutions are key to regional policy formulation and harmonisation within the framework of economic integration (Pretorius et al., 2021), ensuring a coherent and consistent approach to delineating objectives, and interventions, and overseeing implementation. A core part of their responsibilities is to coordinate regional infrastructure development to overcome current challenges related to physical connectivity and related trade systems (SADC, 2019). This transcends transportation, with a focus also placed on the regional communication and energy sectors, as indicated in the RISDP (SADC, 2020b). Inherent hereto is the mobilisation of finance and resources among private and public sector stakeholders to channel investment into specific projects and programmes towards increased industrialisation and deeper regional integration (SADC, 2019). These institutions should also enable knowledge sharing, cooperation, and dialogue between regional stakeholders towards achieving the SADC's development objectives.

There are, however, significant challenges facing the supranational institutions in the SADC that need to be overcome through targeted intervention to fulfil their developmental mandate. Challenges include limited financial resources to undertake and oversee relevant activities. This also impacts infrastructure development, due to the lack of regional development funds to effectively finance spatial interventions and improve connectivity and trade facilitation (Markowitz et al., 2018). Inadequate resources precipitate a lack of capacity in the form of institutional infrastructure and human resources, to oversee the required policy harmonisation and related activities in regional integration. The limited political commitment on the part of national governments to effectively empower supranational institutions – and thus some loss a degree of domestic policy-making sovereignty – also limits the efficiency of said institutions in coordinating regional integration and industrialisation in the SADC.

10.6 Conclusion

The current dependence of the SADC regional economy on primary sector activities, limited value addition, and commodity exports, with price and demand fluctuations, places downward pressure on the region's long-term growth potential and competitiveness in global trade and factor markets. While regional policy has focussed on increasing regional integration and industrialisation, renewed efforts towards implementing targeted interventions are required to exploit the potential synergy between these two pillars of regional development, while also improving the positioning of the SADC among developing regions competing for trade and factors of production in the form of investment, skilled labour, and technology. This includes strengthening intra-regional trade through deeper economic and spatial integration, which requires increased policy harmonisation, the removal of trade

barriers, and improved trade-facilitating infrastructure. The latter requires resources and targeted investment, which ought to be facilitated by an active regional development fund.

Regional integration is central to strengthening value chains connecting member countries based on their competitive advantages and production specialisation. Regional policy ought to enhance the ability of RVCs to exploit the potential inherent to the dominance of primary sector activities in the region. The focus should be on building capacity for industrial value addition facilitated by technology acquisition and transfer to increase industrial production, labour productivity, and regional employment. Regional policy also ought to focus on strengthening external trade agreements with non-member regions and countries to gain additional access to international markets, while stimulating the digital economy and proliferation of e-commerce to connect firms and entrepreneurs with global sectors and consumers. In addition, renewed commitment is required from member countries to sufficiently capacitate, both financially and through human resource development, the supranational institutions of the SADC. This ensures their effective coordination of partnerships among the diverse stakeholders relevant to regional development initiatives, as well as the complex process of policy harmonisation inherent to increased regional integration. Extracting the potential of regional integration and industrialisation may enhance the competitiveness of the SADC and, through this process of regionalisation, foster economic resilience through diversification and increased self-sufficiency, while achieving its socio-economic development objectives.

The core contribution of this chapter lies in determining the position of the SADC among other developing regions in terms of regional integration and industrialisation variables, and delineating recommendations towards strengthening the region's competitiveness in global trade and factor flows in this regard. There are, however, potential limitations to the research, including the variables used to measure the degree of regional integration and industrialisation, the specific focus on competitiveness among developing countries and regions, and the lack of regional policy review for developing regions in the sample. These ought to be considered in future research, in addition to other themes to be explored, such as an intra-SADC analysis of similar variables to investigate potential regional disparities among member countries, as well as a case study analysis of the ASEAN, which is the leading developing region in the framework of this chapter, to extract potential lessons regarding successful regional integration and industrialisation.

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11 Artisanal mining in the SADC region

Lessons learned from the Kimberley artisanal mining case on formalisation

Michelle L.M. Goliath and Maléne Campbell

11.1 Introduction

Artisanal mining as an extractive activity has significant implications for regional policy in the Southern African Development Community (SADC) region, intersecting with the goals of regional development, trade liberalisation, and spatial integration pursued by the SADC. However, the influence of artisanal mining on regional policy is a multifaceted issue that requires careful analysis and integration of various dimensions. From an economic perspective, artisanal mining contributes to regional economies by providing livelihoods and income for local communities (Banchirigah & Hilson, 2010; Hilson & Maconachie, 2020). However, its informal and often unsustainable practices can lead to environmental degradation, social inequalities, and economic volatility, triggering increased conflict, and undermining regional policy objectives.

Additionally, managing conflict and addressing hazardscapes associated with artisanal mining are essential components of the regional policy framework. Artisanal mining activities can intersect with land disputes, resource conflicts, and social tensions, hindering sustainable development and exacerbating regional disparities. The policy framework should incorporate conflict management mechanisms, such as dialogue, negotiation, and mediation, adapted urban planning and land use management, to address conflicts fairly and mutually beneficially (Goliath, 2023). Measures to improve health and safety standards, enforce regulations, and provide training and support should also be implemented to mitigate risks and hazards associated with artisanal mining. Further, drawing lessons from successful experiences, such as the formalisation of the Kimberley artisanal miners, can provide valuable insights and best practices for the SADC region. Stakeholder engagement, transparency and traceability, capacity-building, and a clear regulatory framework are key elements that can be integrated into the regional policy framework. The SADC can promote responsible and sustainable artisanal mining practices, conflict resolution, and risk mitigation by adopting these practices.

Spatial dynamics within the SADC region are also affected by artisanal mining. Mining activities, particularly in resource-rich areas, can disrupt

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development corridors and infrastructure plans, impacting regional connectivity and hindering sustainable development (Ayuk, Ekins Gatune et al., 2020; Azubuikem Nakanwagi & Pinto, 2023). It is crucial for the regional policy to consider the spatial implications of artisanal mining and ensure that infrastructure plans and development corridors align with sustainable development objectives. Targeted support for infrastructure development, services, and capacity-building should be provided to foster responsible mining practices and mitigate adverse spatial consequences.

Moreover, the social and environmental consequences of artisanal mining demand attention within the regional policy framework. Issues such as unmanaged migration, land degradation, pollution, and unsafe working conditions pose challenges to sustainable development and social justice (Buxton, 2013). Integrating measures to address these concerns into regional policy is crucial for promoting resource allocation, reducing disparities, and ensuring social and environmental well-being. This can involve promoting social inclusion, protecting miners' rights, empowering local communities, and enhancing cooperation between relevant stakeholders.

To address this, the regional policy framework should aim to formalise and regulate the artisanal mining sector, to first gather more accurate data on the phenomena, while recognising barriers that increase poverty and resistance to formalisation (Banchirigah, 2006), promoting responsible mining practices, improving working conditions, and enhancing resource management as part of the regional risk and hazardscape (Goliath, 2023).

In conclusion, integrating artisanal mining into the regional policy framework of the SADC region is crucial for holistic and sustainable development. By recognising the economic significance and potential risks associated with artisanal mining and addressing the spatial, social, and environmental dimensions, the SADC can navigate the complexities of the sector and leverage its potential for economic growth while ensuring social and environmental well-being within the region. By incorporating best practices and lessons learned, the SADC can develop a comprehensive policy framework that promotes responsible and sustainable artisanal mining practices, mitigates risks, and conflicts, and fosters regional development and integration (Academy of Science of South Africa, 2018).

11.2 Context: Artisanal and small-scale mining

11.2.1 Defining ASM and SSM in the SADC

It is universally accepted that defining artisanal and small-scale mining (ASM) is problematic due to the lack of uniformity in describing this mining type dependent on context (Hilson, 2003; Sinding, 2005; Sidorenko et al., 2020).

In the context of an SADC region cooperation agreement, a general description of ASM includes small mining operations conducted locally in this instance within SADC member nations and, in this context, as both commercially feasible and socially responsible (Jenkins, 2009). Utilising little

mechanisation, basic instruments, and fundamental technologies, it involves extracting, processing, and beneficiating minerals or resources (Hentschel et al., 2002). ASM operations should uphold social and environmental norms while promoting inclusive growth, sustainable livelihoods, and local community socioeconomic development.

ASM comprises two distinct mining segments, namely artisanal mining and small-scale mining. These two subsectors can be vastly different from each other. In many countries, artisanal mining is often viewed as illegal, informal, and unregulated, practised by individuals or small groups of miners or villagers. In contrast, small-scale mining is regulated, legal, and formal, following similar rules that apply to large-scale mining operations. Recognising these differences is crucial for developing effective policies and interventions in the ASM sector. (Makhetha, 2020)

The significance of ASM in promoting local economies, (Maponga and Musa, 2021) a way of life, and sustainable development within the SADC region is highlighted by this alternate description (AMDC, 2017). It acknowledges the necessity for ethical mining methods that strike a balance between social and environmental concerns and economic viability. An SADC cooperation agreement that seeks to encourage collaboration, coordination, and harmonisation of ASM policies and practices among member nations may therefore be appropriate.

11.2.2 Status of ASM

Hentschel et al. (2002) contend that artisanal mining contributes significantly to mineral production in the region, with various minerals being extracted, including gold, diamonds, gemstones, and strategic minerals. For instance, in Zimbabwe, artisanal miners contribute approximately 60% of the country's gold production, while in Angola, they play a crucial role in the diamond industry. Similar trends can be observed in other SADC countries, such as Zambia, Tanzania, and Mozambique, where artisanal mining plays a significant role in mineral extraction (Stark et al., 2007). The 2017 African Minerals Development Centre report estimates that twelve million persons engage in artisanal mining in Africa (AMDC, 2017).

11.2.2.1 Illegal mining and conflict

Illicit diamond flows are the illegal trade and smuggling of diamonds, which bypass formal channels and regulations, often resulting in the loss of revenue for governments and contributing to conflicts and social issues. Past conflicts were fuelled by the trade of 'conflict diamonds' or 'blood diamonds'. These are diamonds mined in war zones and sold to finance armed conflicts against legitimate governments. Such diamonds have been linked to funding rebel groups, undermining stability and peace in the region. This also resulted in significant revenue losses for SADC countries. These diamonds are not subjected to taxation or royalties, depriving governments of funds that could

have been used for development projects and public services. Illicit diamond flows in the Southern African Development Community (SADC) have been a significant concern for the region due to their potential negative impacts on economies, governance, and security.

The illegal trade of diamonds undermines the formal mining sector. It fosters unfair competition for legitimate diamond producers, as illegal diamonds can be sold at lower prices due to their avoidance of taxes and regulations. Further, illicit diamond mining practices often neglect environmental regulations and labour standards, leading to environmental degradation and exploitation of workers which can harm local communities and damage the long-term sustainability of the mining sector. While the illicit diamond trade can foster corruption within the government and law enforcement agencies, leading to weak governance and a lack of effective regulation and enforcement, it also involves cross-border smuggling networks, making it challenging for individual countries to combat the problem effectively.

The Kimberley Process Certification Scheme (KPCS) was established to prevent the trade of conflict diamonds. However, challenges remain in ensuring its effectiveness and closing loopholes that allow illicit diamonds to enter the market. To address the issue of illicit diamond flows in the SADC region, enhanced cooperation between member countries, improved monitoring and enforcement mechanisms, and greater transparency in the diamond supply chain are essential. Strengthening regulatory frameworks, implementing the KPCS effectively, and promoting responsible and sustainable mining practices can help mitigate the negative impact of illicit diamond flows, fostering economic growth and stability in the region.

Understanding the environment in which formalisation attempts must be made requires a close examination of the problems and difficulties faced by artisanal miners. These difficulties include in some instances being stateless (Ghosh, 2021) or undocumented individuals with restricted access to capital and technology (Schwartz et al., 2021), a lack of legal recognition and assured tenure, poor infrastructure, environmental degradation, and health and safety risks (Mensah, 2021). For example, in the Democratic Republic of Congo, artisanal miners face challenges related to conflict minerals, child labour (Thevenon & Edmonds, 2019) and unsafe working conditions (Hemptinne, 2021). Identifying and addressing these challenges is essential for creating an enabling environment that supports the formalisation of artisanal mining and enhances the well-being of miners and their communities.

Efforts to address these challenges have been made in some SADC countries. In South Africa, initiatives have been implemented to provide technical assistance, training, and access to finance (Mtegha and Oshokoya, 2011) for small-scale miners, aiming to improve their productivity and working conditions (Ledwaba & Nhlengetwa, 2016). In Botswana, the government has introduced policies to integrate artisanal miners into the formal mining sector and provide them with legal recognition and support (AMDC, 2017). These examples demonstrate the importance of addressing the specific difficulties faced by artisanal

Table 11.1 Estimated ASM SADC employment figures[1]

SADC country	*Delve data by country*	*Data from AMDC report*
Angola	120,000	150,000
Botswana	15,000	-
Comoros	-	-
Democratic Republic of Congo	2,000,000	1,500,000
Eswatini	-	-
Lesotho	-	-
Madagascar	500,000	-
Malawi	40,000	-
Mauritius	7,000	-
Mozambique	100,000	100,000
Namibia	10,000	-
Seychelles	-	-
South Africa	20,000	-
United Republic Tanzania	1,000,000	1,500,000
Zambia	35,000	35,000
Zimbabwe	1,000,000	530,000

Source: Delve database extracted data 2023

miners to promote sustainable development and inclusive growth in the SADC region. Globally it is estimated that 44,670,000 people work in ASM.

Table 11.1 contains country-specific data from the Delve database per SADC country, as well as the AMDC report, 2017.

To create targeted policies and interventions to maximise the potential for sustainable development offered by artisanal mining in the SADC region, it is essential to comprehend its characteristics, scale, and breadth. Since artisanal mining data is currently erroneous and lacking (Table 11.1), the extent of the situation is difficult to quantify. Additional investigation into the circumstances in each of the SADC countries is needed to close the data gap (Etter-Phoya, 2015).

In reflection, artisanal mining plays a significant role in the SADC region's mineral production and socioeconomic development. Understanding the scale, scope, and challenges faced by artisanal miners is crucial for formulating effective policies and interventions that promote sustainable development, resource management, and the well-being of miners and their communities. By addressing the unique difficulties faced by artisanal miners and creating an enabling environment, the SADC region can unlock the full potential of artisanal mining and harness its benefits for the broader economy (Drechler, 2001).

11.3 Policy environment

Although the SADC countries do not have a single comprehensive agreement that is entirely focused on mining, there are numerous regional accords and efforts[2] that address mining and natural resources. These agreements

seek to advance collaboration, sustainable growth, and prudent mineral resource management, but they are, however, not implemented unilaterally (AMDC, 2017).

The SADC Protocol on Mining[3] is an agreement among the member states of the SADC aimed at promoting cooperation and harmonisation of mining policies within the region. The Africa Mining Vision[4] (AMV) (Africa Union, 2009) and the SADC Protocol on Mining share common objectives and principles, and they can be complementary in their efforts to foster sustainable and inclusive mining development in SADC.

The SADC Protocol on Mining recognises the importance of sustainable development, environmental protection, and social responsibility in the mining sector. It emphasises the need for member states to harmonise their mining policies, legislation, and regulations to create a conducive environment for investment and promote equitable benefits from mining activities. The objectives and guiding principles are aligned with the AMV, which offers a wider continental framework for sustainable mining development. The AMV places a strong emphasis on local content and value addition, artisanal and small-scale mining's integration into the formal economy, and the necessity of ethical mineral resource use. These ideas are consistent with what the SADC Protocol on Mining seeks to achieve. The AMV coincides with the objectives and guiding principles of the SADC Protocol on Mining and offers a wider continental framework for sustainable mining development. The AMV places a strong emphasis on the necessity of ethical mineral resource extraction, the integration of small-scale and artisanal mining into the formal economy, and the encouragement of local content and value addition. The goals of the SADC Protocol on Mining are consistent with these principles.

The AMV and the SADC Protocol on Mining share common goals and principles related to sustainable mining development. They can work together to promote harmonisation, cooperation, and the adoption of best practices in the mining sector within the SADC region. By integrating the AMV principles and guidelines into their national policies and strategies, SADC member states can enhance their efforts towards sustainable and inclusive mining development. Harmonisation is critical as evidenced by the argument posed by Matshdiso and Cawood (2005), who link the performance of the mining sector to maintaining political stability in the region.

In 2000, SADC adopted the Protocol on Mining, which promotes cooperation and harmonisation of policies and regulations related to mining. The protocol aims to facilitate sustainable development of the mining sector and encourage investment in the region. A regional development masterplan includes the development of regional infrastructure, including transportation, energy, and communication networks, which are essential for the mining sector's growth and connectivity within the region. A foundation for regional development in several industries, including mining, is provided by the SADC Regional Indicative Strategic Development Plan. It emphasises the significance of managing natural resources sustainably and

encourages beneficiation and value addition to maximise socioeconomic benefits. Further, the aforementioned are linked by the regional programme called the Mineral Sector Programme which encourages collaboration, information exchange, and capacity-building in the mining industry. It focuses on topics including environmental management, mineral beneficiation, and exploration and exploitation of minerals.

A framework for negotiations between governments and mining firms is provided by the SADC Model Mining Development Agreement (MMDA). It strives to increase the involvement of local people and stakeholders and assure openness, fairness, and sustainability in mining contracts (Onditi, 2022). The needs of the mining industry are included in the SADC Regional Infrastructure Investment Master Plan, which focuses on infrastructure development. To assist mining operations, it analyses investment opportunities in the fields of transportation, energy, and other crucial infrastructure. The SADC Harmonization of Mining Policies, Standards, Legislative, and Regulatory Frameworks Project aims to harmonise mining policies, standards, legislation, and regulations across SADC countries. The harmonisation efforts seek to create a conducive investment environment, ensure responsible mining practices, and facilitate regional cooperation.

These agreements and projects are ever-evolving and open to updates and changes. Furthermore, each SADC member state has bilateral or multilateral agreements with other SADC members that are specifically related to mining or natural resources, while the SADC Mining Protocol emphasises the value of sustainable development and the variety of mining, including ASM. It underlines the necessity of collaboration, policy harmonisation, and sector-wide promotion of ethical mining practices. The strategic plan recognises ASM as an essential part of the mining sector and highlights the importance of its sustainable management. It promotes the value addition and beneficiation of mineral resources, which can also apply to ASM.

Although the SADC Mineral Sector Programme focuses on large-scale mining, it may also incorporate ASM-related elements, such as capacity-building, training, and support for ethical mining procedures. The programme seeks to improve the mining industry's overall sustainability and competitiveness, including ASM. Further, the SADC Model Mining Development Agreement (MMDA) focuses on larger-scale mining operations; hence it does not directly cover ASM. However, it can function as a reference or a roadmap for discussions between authorities and ASM providers, encouraging openness, equity, and community involvement. Mining Policies, Standards, Legislative, and Regulatory Framework Harmonisation in the SADC Project is echoed in the aims to harmonise mining policies, standards, legislation, and regulations. While the focus may be primarily on large-scale mining, it can indirectly benefit ASM by promoting a favourable policy and regulatory environment that supports responsible and sustainable ASM practices. It is within this policy environment that artisanal and small-scale mining formalisation is considered.

11.4 Formalisation in ASM

11.4.1 The importance of formalisation in ASM

There are both benefits and challenges associated with the formalisation of this segment of the extractive sector. Formalisation, which is a process of bringing artisanal and small-scale mining (ASM) activities into the legal and regulatory framework, has the potential to contribute significantly to the development of the SADC region. This is of particular importance to sustainable development and the reduction of conflict and illegal mining.

11.4.1.1 Sustainable Development Goals

Formalisation can contribute by promoting responsible mining practices, reducing environmental impacts, combating illegal activities, generating tax revenues, fostering social and economic development in mining communities, and creating positive and transformative impacts on various aspects of sustainable development (Monteiro, da Silva & Neto 2019). One of the key benefits of formalisation is the promotion of responsible mining practices. Formalising ASM operations enables governments to establish regulatory frameworks that set standards for and permissions in respect of activities, which include environmental protection, occupational health and safety, and labour conditions. By complying with these regulations, miners can adopt more sustainable mining techniques, such as implementing proper waste management, reducing the use of hazardous chemicals, and adopting responsible land reclamation practices. This contributes to the preservation of ecosystems, biodiversity, and natural resources, ensuring their long-term viability.

Formalisation offers the chance to apply occupational health standards, set and enforce safety laws, and make sure that miners receive the right training and capacity-building. By bringing artisanal mining activities into the formal sector, governments and relevant stakeholders can create a framework for monitoring and improving working conditions, reducing accidents, and protecting the health and well-being of miners. Furthermore, formalisation can enable access to social protection mechanisms, including healthcare, insurance, and pension schemes, thereby enhancing the overall welfare of artisanal miners and their families.

Understanding the connection between formalisation and sustainable development is crucial for shaping effective policies and interventions. Governments, in collaboration with stakeholders, need to develop comprehensive strategies that address the specific needs and challenges of ASM, while aligning with sustainable development objectives. These strategies should focus on providing technical assistance, capacity-building, and access to finance for miners, supporting the establishment of responsible supply chains, promoting transparency and accountability, and engaging with local communities to ensure their active participation in decision-making processes.

11.4.1.2 Conflict and illegal mining reduction

Formalisation plays a crucial role in combating illegal mining activities and conflict. Informal and illegal mining often leads to conflict, environmental degradation, exploitation of workers, and revenue losses for governments (Goliath, 2023). By formalising ASM, governments can establish mechanisms for monitoring and regulating mining activities, ensuring compliance with environmental and labour standards, and curbing illicit practices such as smuggling and illegal trade of minerals (Mudandaedza, 2021). This helps to create a level playing field and promotes fair competition within the mining sector.

Furthermore, formalisation can lead to increased tax revenues for governments. Informal mining often operates outside the tax system, resulting in significant revenue losses. By formalising ASM, governments can bring miners into the tax net, enabling them to collect taxes, royalties, and other fiscal contributions. These additional revenues can then be invested in infrastructure development, education, healthcare, and other essential services, benefiting both mining communities and the broader society. It also fosters social and economic development in mining communities. By providing legal recognition and assured tenure to miners, formalisation enhances their access to financial services, capital, and markets. This enables them to invest in improved equipment, technology, and skills development, leading to increased productivity and higher incomes. Formalisation also promotes the inclusion of marginalised groups, such as women and youth, in the mining sector, empowering them economically and socially. Additionally, formalisation can facilitate the establishment of cooperatives and associations, enabling miners to collectively negotiate better prices, access social protections, and advocate for their rights.

11.5 The Kimberley case study

11.5.1 Background and context

South Africa is part of the SADC region and is renowned for its rich mineral wealth. Artisanal mining in South Africa could play a significant role in contributing to the local economy. However, this informal mining sector is fraught with a complex risk and hazardscape that poses considerable challenges to the safety, health, and environmental well-being of its workers and surrounding communities. The potential features of this risk and hazardscape in artisanal mining are multifaceted, encompassing occupational hazards, health risks, land degradation, social and economic vulnerabilities, gender bias, informal trade, high labour mobility, undocumented workers, conflicts resulting from informality, and a dearth of data on the challenges faced by the sector (Hinton, J., Veiga, M.M., and Beinhoff, C., 2003). Figure 11.2 provides an overview of the study area surrounding Kimberley (South Africa) with formal (white outline) and informal (white outline filled with dark grey) mining areas.

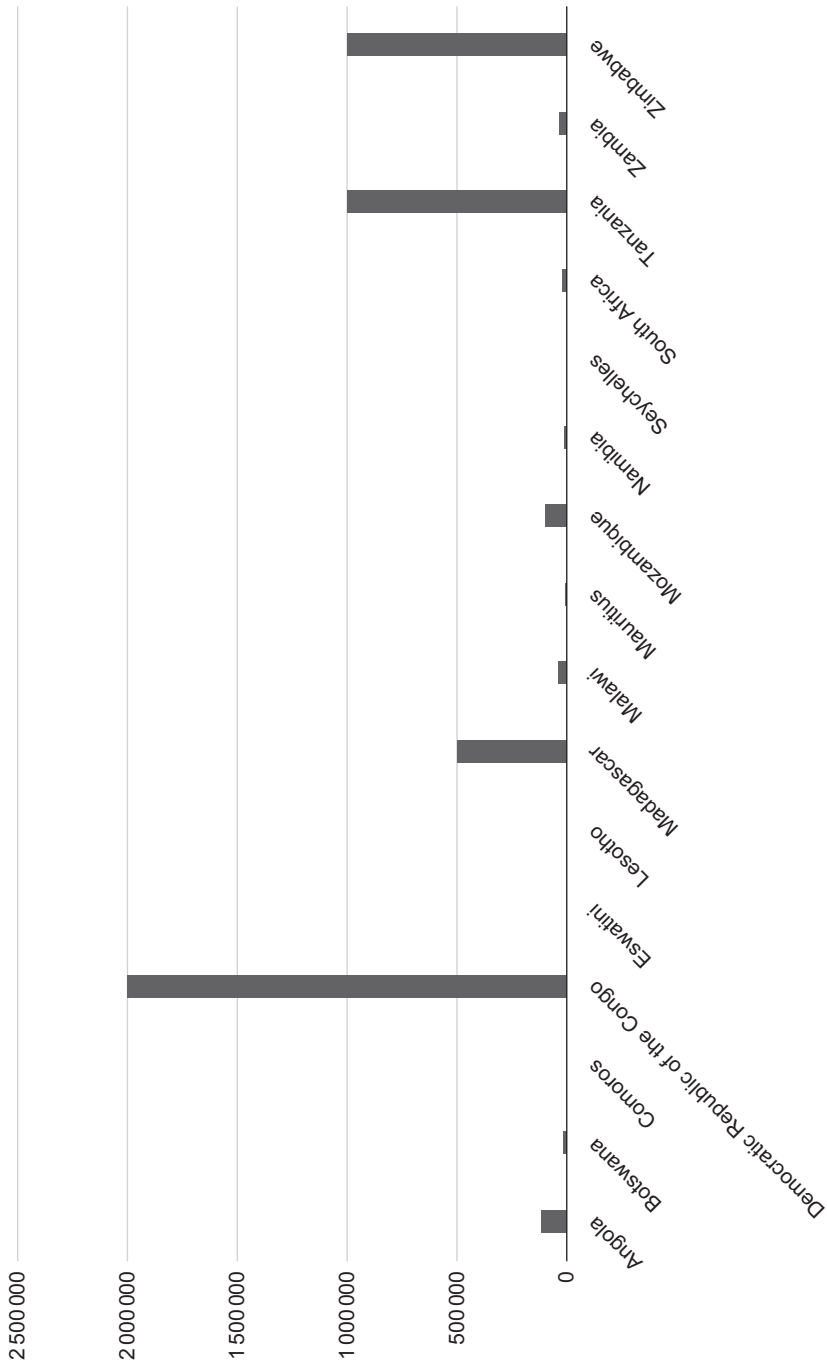


Figure 11.1 SADC status of employment in ASM
Source: https://delvedatabase.org/data 2023

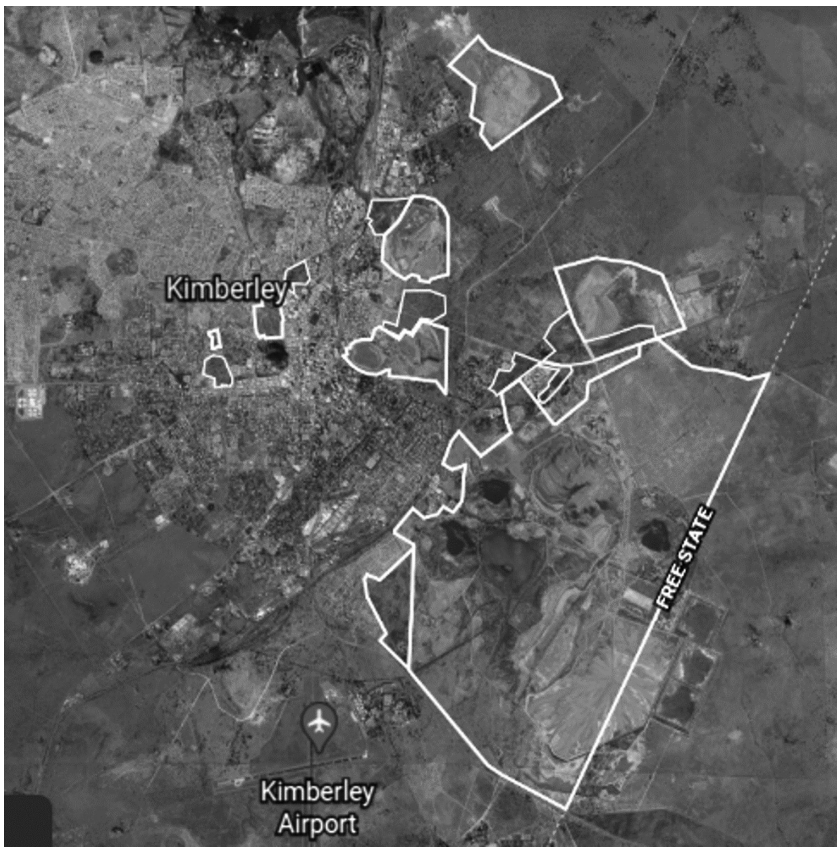


Figure 11.2 Study area with formal and informal mining areas

Source http://www.destination360.com/africa/south-africa/map and adapted from Google Maps (2023) (MLM Goliath, 2023)

Adding to the complexity of the situation, climate change has emerged as a critical factor that further exacerbates the risks and challenges faced by artisanal miners in the SADC region. The impact of climate change brings about a myriad of additional issues, ranging from extreme weather events to shifts in rainfall patterns, heightened heat stress, and changes in disease patterns. These climate-related factors introduce new dimensions of vulnerability for artisanal miners and their communities, making it imperative to integrate climate resilience and adaptation strategies into the mining sector. Moreover, the informality of artisanal mining has significant implications, contributing to high labour mobility and the involvement of undocumented workers. The transient nature of the workforce can hinder efforts to implement proper safety measures and training, leaving miners susceptible to greater risks and

hazards. Additionally, the lack of formal recognition and regulation can lead to conflicts over mining sites and resources, further exacerbating the vulnerabilities faced by artisanal mining and neighbouring host communities.

Another major challenge lies in the scarcity of reliable data on the artisanal mining sector and limited data inhibits accurate assessment and understanding of the full extent of the challenges, hindering the formulation of effective policies and targeted interventions. It is crucial to address this data gap to inform evidence-based policies that address the diverse risks and hazards faced by artisanal miners. In this context, understanding and addressing the intricate interplay between artisanal mining risks, climate change impacts, high labour mobility, undocumented workers, conflicts, and data gaps becomes paramount. This research delves into an in-depth exploration of these multifaceted challenges faced by artisanal miners in a specific case study in Kimberley, South Africa. By shedding light on the complexities at hand, we aim to foster a comprehensive understanding of the issues faced by artisanal miners and to identify viable solutions that promote sustainable and safer mining practices which have wider applicability to the SADC region.

11.5.2 The Kimberley case and formalisation

The Kimberley artisanal mining case holds historical significance, as Kimberley was once renowned for its diamond mining which started as informal artisanal mining and also gives its name to the Kimberley Process.[5] Over the years, artisanal mining emerged as an informal unregulated sector activity, with miners operating independently and outside formal regulations. The rich mineral deposits in the region attracted a large number of people seeking to make a living through diamond extraction. As Figure 11.2 shows, the pull factors also drew members of other SADC countries to illegal mining in the Kimberley area. The fact that they were also undocumented migrants exacerbated their vulnerability, resulting in additional challenges to their livelihoods and health and safety.

The informal nature of artisanal mining in Kimberley gives rise to several challenges, encompassing disputes over land rights, land invasions, unregulated land usage, environmental degradation, unsafe working conditions, and restricted access to markets and equitable diamond prices. In Figure 11.2, the involvement of Kimberley's artisanal miners, which includes undocumented foreigners and women, is depicted in action research. The research, spanning five years from 2016 to 2021 and conducted as a mixed-method longitudinal study by one of the authors, sought to investigate and tackle various issues by actively engaging the miners in the problem-solving process. The primary focus of the study was on formalisation as a strategy to calm tensions and reduce disputes (Goliath, 2023).

Artisanal miners including women and foreign miners faced a variety of difficulties that hurt their socioeconomic well-being, which was determined by studying process data during formalisation, together with various

socioeconomic indicators, conflict event data, and climate and hazardscape indicators, as well as the cumulative impact of these factors on the results of diamond sales through formal trading after formalisation. The results showed that higher vulnerability factors decrease the sustainability of artisanal mining if they are not managed through the process. These difficulties included the absence of holding legal status and constant police arrests, unstable land tenure resulting in court appearances and evictions, restricted access to resource areas, money, and technology, and high vulnerability, increasing the risk of miners being subjected to unethical supply chain activities by diamond buying cartels and syndicates. Additionally, environmental degradation and safety hazards posed risks to their and others' health and livelihoods. The absence of formalisation initially compounded these challenges, making it difficult for miners to access markets, obtain fair prices for their diamonds, and improve their overall working conditions. Surrounding communities were faced with what they termed 'Zama Zama[6] based urban chaos', illegal land occupation, violent disruptions, increased crime, and related hazards before formalisation, which were pacified during the formalisation process.

11.5.3 Data gaps and data collection

The relevant data collected during the longitudinal study are captured in this study to indicate their relevance to policy and planning in the SADC region. In Figure 11.3, the data reflects the total number of active miners measured per year during the formalisation process and beyond. The data on illegal/unregulated miners obtained from 2016 to 2017 was from court and Department of Minerals and Energy applications for mining permits. As

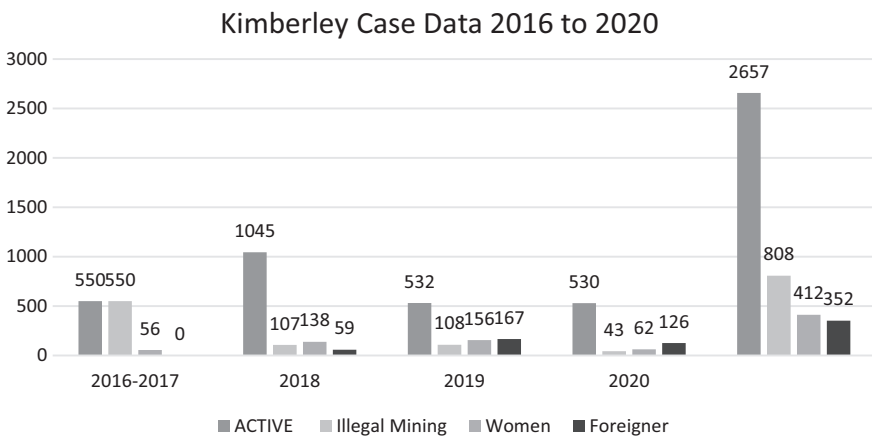


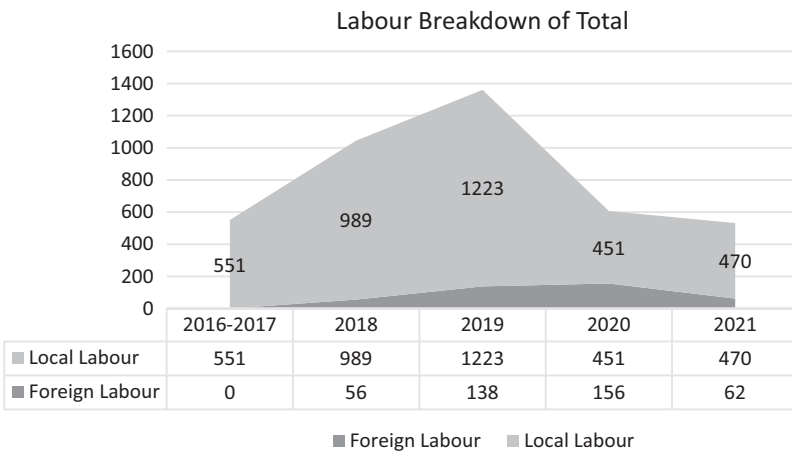
Figure 11.3 Measurement of mining subtypes in ASM case 2016 to 2020

Source: Baseline study 2016 to 2020 MLM Goliath

the information contained unique identifiers, it was possible to track specific miners through the process to determine their mobility and the turnover rate into and out of the sector.

Other variables included the number of women and foreign labour as a percentage of the total. In 2016 no foreign labour was measured, largely due to their invisibility to formal systems. As undocumented labourers, they initially avoided both arrest and putting their names on any applications for licences or permits through formal channels while mining in more remote and hidden areas.

During 2018, the formalisation process was conducted and finalised, and both documented and undocumented foreign labour were measured through site and camp registers (see Figures 11.4 and 11.5), many had expired passport and work permit documents to begin with, and those who wanted to continue working had to renew their paperwork. This was a very difficult process where very little assistance was provided by the government, resulting in many going back to illegal mining. During the Covid-19 pandemic, lockdown period foreign miners were forced to apply for assistance in the form of food parcels with other artisanal miners who were unable to work, requiring them to apply without the fear of prosecution. Interviews conducted with them then, indicated that they were less likely to leave the mining site and settlement during crisis as they had nowhere else to go. In an otherwise high-mobility environment, as depicted in Figure 11.5, more vulnerable groups are either forced to leave or stay due to limited options. Women measured during this period chose to return to rural settlements and small towns from which they originated, while foreign labour remained in the camps.



	2016-2017	2018	2019	2020	2021
Local Labour	551	989	1223	451	470
Foreign Labour	0	56	138	156	62

Figure 11.4 Foreign and local labour per year 2016 to 2021

Source: Baseline study 2016 to 2021 MLM Goliath

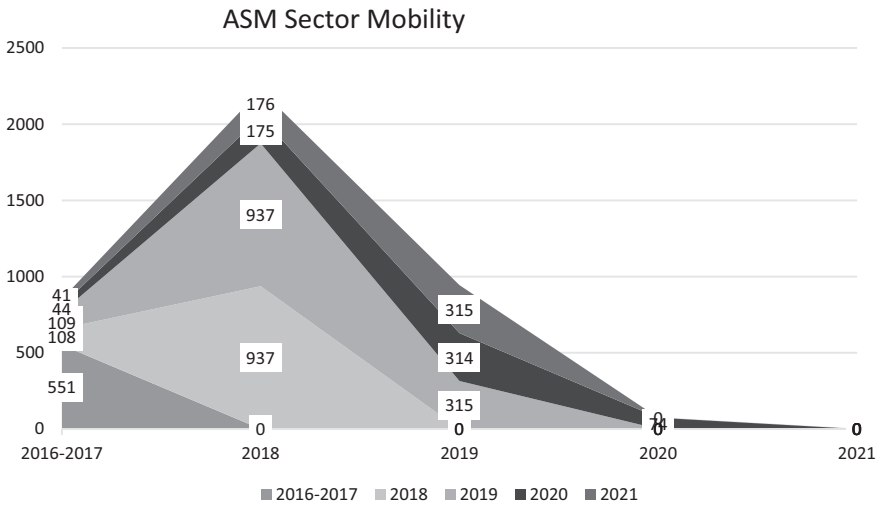


Figure 11.5 Mobility during the formalisation process
Source: Baseline study 2016 to 2021 MLM Goliath

In Figure 11.4, the data on foreign labour was obtained from both onsite registers and camp survey data, a marginal percentage of foreign miners remains undetected. In this case, the foreign labour percentage is much lower than other artisanal mining sites in the country according to the National Association of Artisanal Miners (NAAM) membership database for 2021 compiled by one of the authors of this research. For example, during gold mining in the Gauteng area, the foreign labour component is estimated to be up to 98% foreign labour with only 2% being local labour.

In Figure 11.5, the mobility of miners was measured before and after formalisation together with conflict event data as part of a risk and hazardscape evaluation, which tested various pacification strategies for urban conflict, the details of which are not included in this chapter (Goliath, 2023). The values contained in Figure 11.4 indicate a high turnover of miners into and out of the system, which affects both policy and planning in urban environments and by intimation regions of SADC. The relevant lessons learned from that study are contained in the next section.

11.5.4 Lessons learned

The fundamental insights underscore the critical role of data in shaping decision-making and policy formulation. It stresses that where data gaps exist, corresponding policy gaps are likely to emerge. Although measuring informality poses challenges, employing unique data-gathering approaches can unveil the current state in and around various artisanal mining areas. The data collection process should prioritise local involvement, ensuring that

those collecting data understand that more accurate information leads to improved service provision and benefits for them, rather than increased prosecution and vulnerability. Achieving this requires adopting more participative strategies that align with formalisation processes, ensuring that formalisation is a collaborative and voluntary effort for the system's beneficiaries.

The research also highlights that the government's reluctance to support undocumented labour and its exclusion from formalisation processes, coupled with a focus on prosecution as the sole solution for dealing with informal and unregulated miners, fails to diminish contestation, conflict, crime, and violence. Instead, it exacerbates xenophobia, social unrest, and mobility, rendering areas more unsustainable and challenging to manage. Specific recommendations based on the study's findings are detailed in Section 11.6.2 and are not reiterated here.

11.6 Discussion

The formalisation efforts in Kimberley were underpinned by a comprehensive legal agreement that addressed various aspects of the artisanal mining sector. The agreement encompassed rules pertaining to mining licences, land tenure security, environmental protection measures, and the establishment of transparent and accountable trading mechanisms. The main objective of these legal instruments was to create an environment that supports formalised artisanal mining while ensuring sustainable resource management and responsible mining practices.

One crucial aspect of the formalisation process in Kimberley was the active engagement of artisanal miners and their communities in decision-making processes. This participatory approach ensured that the concerns and perspectives of artisanal miners were considered, promoting a sense of ownership and empowerment among them. By involving the miners in the formulation and implementation of formalisation policies and programmes, the process became more inclusive and collaborative.

To support the formalised artisanal miners, access to finance, training, and technical support were provided. Financial mechanisms such as credit facilities and investment opportunities allowed miners to improve their mining operations and effectively access markets. Training programmes were implemented to enhance their skills and knowledge in sustainable mining practices, business management, and market engagement. Additionally, technical support was offered to ensure safe and efficient mining operations, ultimately reducing the environmental impact and enhancing productivity.

The Kimberley artisanal mining case provided valuable lessons that can inform future formalisation efforts. Firstly, accurate data collection and analysis were essential to understanding the scope and scale of the urban challenge. A holistic and multi-stakeholder approach involving government agencies, local authorities, mining cooperatives, civil society organisations, and the private sector was crucial for effective formalisation. Collaboration

and coordination among these stakeholders were vital to address the complex challenges that arose during the formalisation process.

The case also highlighted the importance of clear and comprehensive legal arrangements, as well as finding ways to adapt existing legislation to suit specific policy guidelines for formalisation. Transparent regulations and guidelines for mining licences, land tenure, environmental protection, and fair-trade practices were necessary for fostering a conducive environment for formalised artisanal mining.

Formalisation had positive impacts on artisanal miners and their communities. It improved working conditions, enhanced safety standards, promoted responsible environmental practices, and facilitated market access and fair prices for their minerals. Additionally, formalisation contributed to sustainable development, socioeconomic empowerment, and poverty reduction.

Beyond the Kimberley case, formalisation has broader impacts on artisanal miners and their communities. It leads to improvements in socioeconomic conditions, access to formal markets, and increased income and economic stability. Formalisation also encourages infrastructure development, responsible environmental practices, and social inclusion and empowerment for the miners.

Moreover, formalisation has implications for governance and regulatory frameworks. It helps combat illegal mining activities and establishes monitoring mechanisms to ensure compliance with regulations and responsible mining practices. Overall, understanding and leveraging the positive impacts of formalisation can inform policymakers and stakeholders in designing effective strategies for artisanal mining in the SADC region, maximising benefits while mitigating challenges.

The formalisation process in Kimberley involved various stakeholders working collaboratively. These stakeholders included government departments responsible for mining and natural resources management, local authorities, mining cooperatives, civil society organisations, and representatives from the private sector. Additionally, engagement with artisanal miners and their communities was vital to ensure their needs and perspectives were considered during the formalisation process. The involvement of these diverse stakeholders aimed to create a comprehensive and inclusive approach to formalisation, addressing the various dimensions and challenges associated with artisanal mining in Kimberley.

11.6.1 Key success factors of formalisation

The formalisation process in Kimberley was guided by several best practices that contributed to its successful outcomes. These practices included the establishment of clear legal agreements involving the government, the private sector, and artisanal miners. Additionally, the formalisation efforts focused on providing technical assistance and capacity-building for miners, creating transparent and accountable governance structures, and promoting responsible and sustainable mining practices. The formalisation initiatives

also emphasised gender and social inclusion, adapted spatial planning and land use management, environmental stewardship, and economic empowerment. These best practices were designed to ensure the long-term viability and positive impact of formalised artisanal mining in Kimberley.

As the formalisation process unfolded, several key success factors emerged that can serve as guiding principles for similar initiatives in the SADC region. First and foremost, strong leadership and political will were crucial for driving the formalisation agenda forward. Governments and relevant authorities demonstrated their commitment to supporting artisanal miners and prioritising their formalisation within the mining sector. This process also involved formalising all aspects affecting foreign labour, ensuring comprehensive inclusion. This was supported by effective stakeholder collaboration and engagement played a vital role in the success of formalisation efforts. By fostering partnerships among government agencies, local authorities, mining cooperatives, civil society organisations, and the private sector, a collective approach to formalisation was achieved. Collaboration ensured that diverse perspectives were considered, enhancing coordination, and promoting shared responsibility for the success of formalisation.

Transparent and accountable governance structures and regulations were identified as critical for successful formalisation. The presence of a clear legal and policy framework outlining the rights, obligations, and responsibilities of all stakeholders involved provided clarity and ensured compliance. Such a framework also established a level playing field for all miners, fostering a fair and conducive environment for formalised artisanal mining. This was underpinned by access to finance and technical support which emerged as indispensable elements for the formalisation of artisanal miners. Establishing mechanisms that provided affordable and accessible financing options, alongside targeted technical assistance and capacity-building, empowered miners to meet the requirements for formalisation. This approach also improved their overall productivity and sustainability in the mining sector.

However, despite the significant benefits of formalisation in Kimberley, the process also encountered challenges and limitations. One major challenge was the lack of awareness and understanding among artisanal miners about the benefits and procedures of formalisation. Initial hesitation arose among many miners due to perceived risks and uncertainties associated with the formal sector. Additionally, limited access to finance and technical resources presented a significant barrier to formalisation. Many artisanal miners lacked the necessary capital, infrastructure, and technical knowledge required to meet the formalisation requirements, hindering their ability to comply with regulations and access formal markets.

Another challenge was the inadequate institutional capacity and coordination among relevant government agencies and stakeholders. This hindered the smooth implementation and enforcement of formalisation policies. Weak governance structures and corruption further undermined the effectiveness and fairness of formalisation processes.

In a comparative analysis of the situation involving formalised artisanal mining in Zambia, The World Bank's 2016 Mining and Governance review highlighted an intriguing paradox. While Zambia boasted a notably high level of formalisation in contrast to other SADC and African nations, this formalisation did not necessarily translate into the anticipated benefits, such as improved access to financial resources, advanced technology, or governmental institutional support. Additionally, the study underscored that the effectiveness of the institutional arrangements in place played a significant role in shaping the attainment of formalisation objectives (World Bank, 2016).

Despite these challenges, the formalisation efforts in Kimberley provided valuable lessons that can inform future initiatives in the SADC region. By addressing these limitations and building on the successes and best practices, policymakers and stakeholders can develop more effective and inclusive strategies for formalising artisanal mining in the region, ensuring sustainable development, and empowering artisanal miners and their communities. The lessons learned are translated into recommendations that can be applied to the SADC region.

11.6.2 Recommendations for the SADC

To promote the formalisation of artisanal mining and mitigate the negative impacts of illegal mining in SADC countries, the following recommendations can be implemented.

Firstly, there is a pressing need to enhance awareness and education among artisanal miners. This involves implementing comprehensive awareness campaigns and targeted training programs. The objective is to ensure that miners understand the benefits and procedures associated with formalisation, addressing any perceived risks and uncertainties.

Financial and technical support mechanisms must be established to facilitate the formalisation process. This includes providing affordable and accessible financing options and implementing initiatives for technical support and capacity-building. These efforts empower miners, enabling them to meet the formalisation requirements and, in turn, enhancing their overall productivity and sustainability.

Leadership and political will play a crucial role in driving the formalisation agenda forward. Governments and relevant authorities need to demonstrate a strong commitment to supporting artisanal miners. This commitment should extend to formalising all aspects affecting foreign labour, ensuring comprehensive inclusion within the formalisation framework.

Effective stakeholder collaboration is vital for success. By fostering partnerships among government agencies, local authorities, mining cooperatives, civil society organizations, and the private sector, a collective and inclusive approach to formalisation can be achieved. This collaboration ensures that

Table 11.2 Lessons learned and recommendations

Lessons from the case	*Recommendation*
Strengthen legal and regulatory frameworks and support	SADC countries should review and update their mining laws and regulations to create an enabling, inclusive environment for artisanal miners to formalise their operations. The legal framework should be clear, transparent, and accessible to encourage compliance.
	Undocumented foreigners may face legal challenges related to their status in the country. Formalisation processes should address their legal standing and provide a pathway for regularisation, allowing them to participate in the formal mining sector.
Streamline licencing procedures	Simplify the process for obtaining mining licences and permits for artisanal miners. This will encourage more miners to enter the formal sector and discourage illegal practices.
	The process of formalisation must guarantee that individuals lacking proper documentation due to their foreign status are not denied mining rights and permits solely based on their immigration status or nationality. It is imperative to provide them with equal opportunities to engage in the formal mining sector. Policies that mandate miners to be citizens of the host country, as is the case in both Zambia and South Africa where mining activities occur, could exacerbate challenges and obstacles in addressing illegal immigration concerns.
	Formalised mining should ensure that undocumented foreigners are provided with proper labour rights and protections. This includes fair wages, safe working conditions, and access to healthcare and social benefits.
Raise awareness and provide training	Conduct awareness campaigns to educate artisanal miners about the benefits of formalisation, including access to legal protection, social services, and financial support. Training programmes on responsible mining practices and safety standards should also be provided.
	Undocumented foreigners may lack awareness and knowledge about formalisation processes and responsible mining practices. Providing training and educational programmes can help them understand their rights and responsibilities as formalised miners.
	Undocumented foreigners are often vulnerable to exploitation due to their legal status. The formalisation process should include measures to prevent and address any exploitative practices, ensuring they are not subjected to unfair treatment or abuse.
Facilitate access to finance	Establish mechanisms to provide financial support and credit facilities to all artisanal miners who wish to formalise their operations including formalised foreigners. Access to finance can help them invest in safer and more efficient mining practices.
Promote cooperative mining	Encourage artisanal miners to form cooperatives or associations to pool resources and share knowledge. Cooperatives can provide a collective voice for miners, making it easier for them to engage with authorities and negotiate better terms.

(*Continued*)

Table 11.2 (Continued)

Lessons from the case	*Recommendation*
Establish monitoring and enforcement mechanisms	Strengthen monitoring and enforcement of mining activities to ensure compliance with regulations. Regular inspections can help identify illegal operations and take appropriate actions.
Engage with local communities	Involve local communities in decision-making processes related to mining activities. This will foster a sense of ownership and reduce conflicts between miners and local residents.
	Promote social integration of undocumented foreigners within mining communities. Encourage dialogue and cooperation between local residents and foreign miners to foster a sense of community and reduce tensions.
	Implement policies and awareness campaigns to prevent discrimination against undocumented foreigners. Equal treatment and opportunities should be provided to all miners, regardless of their nationality or legal status.
Develop sustainable mining practices	Encourage the adoption of sustainable and environmentally friendly mining practices. Training and support in responsible mining techniques, including proper waste management and reclamation, can help minimise environmental impacts.
Invest in infrastructure and services	Allocate a portion of mining revenue to develop infrastructure, such as roads, schools, healthcare facilities, and clean water sources, in mining communities. This will improve living conditions and foster social development.
	Ensure that formalised foreign miners have access to essential social services, such as healthcare, education, and housing, irrespective of their legal status.
Strengthen cross-boundary cooperation on illegal mining	As illegal mining activities can spill across borders, SADC countries should collaborate in intelligence sharing and joint efforts to combat illegal mining operations.
	Foster cooperation between SADC countries to address the challenges faced by undocumented foreign miners who move between borders. Harmonising policies and regulations can facilitate their formalisation across different countries. It is crucial to recognise that the specific needs and challenges of undocumented foreigners in the artisanal mining sector may vary from country to country within the SADC region. Tailored solutions and inclusive policies are essential to ensure the fair and equitable participation of all miners, regardless of their immigration status.
Promote formal market access	Facilitate formal market access for artisanal miners, providing fair prices and transparent trading mechanisms for their minerals. This will further incentivise miners to formalise their operations.
Support research, data collection, and record-keeping	Invest in research and data collection to improve understanding of the artisanal mining sector. Accurate and up-to-date information will help in formulating effective policies and interventions.
	Establish mechanisms to document and record the participation of undocumented foreigners. This helps track their involvement and facilitates their integration into the formal economy.

Source: Authors' own compilation

diverse perspectives are considered, enhancing coordination and promoting shared responsibility.

Transparent and accountable governance structures are foundational to successful formalisation. A clear legal and policy framework outlining the rights, obligations, and responsibilities of all stakeholders provides clarity and ensures compliance. This framework also establishes a level playing field for all miners, fostering a fair and conducive environment for formalised artisanal mining.

Addressing inadequate institutional capacity and coordination is essential. This involves investing in capacity-building programs to strengthen governance structures and combat corruption. Strong institutions are fundamental for the effective implementation and enforcement of formalisation policies.

Learning from comparative analyses with other SADC nations is critical. Understanding the factors influencing the effectiveness of formalisation efforts, as demonstrated in the intriguing paradox identified in Zambia, can inform the refinement of strategies for specific regional contexts.

Continuous monitoring and evaluation mechanisms are necessary for assessing the impact of formalisation initiatives. Regular feedback from stakeholders should be used to make necessary adjustments and improvements to the formalisation processes.

Aligning formalisation strategies with broader sustainable development goals ensures that artisanal mining contributes positively to economic, social, and environmental aspects. Additionally, formalisation initiatives should be designed to empower artisanal miners and their communities economically and socially, addressing broader socioeconomic challenges.

By implementing these recommendations, SADC countries can harness the potential of artisanal mining while mitigating the negative impacts of illegal practices. Formalisation can lead to a more sustainable, inclusive, and responsible mining sector, benefiting both the miners and the broader society.

11.7 Conclusion

In addition to the positive impacts on hosts and foreigners, the formalisation of artisanal mining in SADC countries can significantly reduce conflict and illegal mining within host communities. Formalisation brings clarity to land rights and mining licences, establishing clear boundaries for mining activities. This can reduce conflicts over resource ownership and usage between diverse groups, leading to more harmonious relationships within the community. By providing legal avenues for artisanal miners, formalisation decreases the incentives for engaging in illegal mining activities.

As more miners transition to the formal sector, the prevalence of illegal mining operations decreases, mitigating environmental degradation and promoting sustainable resource management. Furthermore, formalisation enables better regulation and oversight of mining practices. This helps prevent uncontrolled exploitation and environmental damage caused by illegal mining activities.

Responsible mining practices promoted through formalisation can lead to better land reclamation and environmental restoration efforts, benefiting host communities and preserving their natural resources. In turn, reduced conflict and illegal mining contribute to improved social cohesion, stability, and overall development within host communities. Formalised mining operations are more likely to invest in community development initiatives, such as building schools, healthcare facilities, and infrastructure, fostering greater social progress.

In summary, formalising artisanal mining in SADC countries not only benefits undocumented foreign miners but also creates a conducive environment for reducing conflict and illegal mining within host communities. Through clear regulations, responsible mining practices, and improved social development, formalisation becomes a catalyst for sustainable growth, both economically and socially, benefiting the entire region.

Notes

1 The quality of data in the ASM sector is constrained by several limitations. One of the primary challenges is the lack of consolidation, census, or scientific estimations. Thus, the available data on ASM is predominantly comprised of rough estimations. These estimations often overlook the diversity within ASM communities, leading to instances where the entire community is categorised as ASM, and all its members are considered miners. This approach fails to acknowledge that many community members may pursue alternative livelihoods, in addition to their involvement in ASM activities. As a result, the data available on ASM tend to oversimplify the complex dynamics and intricacies of this sector.
2 Examples include the 2002 Yaounde Declaration, 2004 African Mining Partnership, 2009 African Mining Vision (source: AMDC, 2017).
3 See https://www.sadc.int/pillars/mining.
4 Africa Mining Vision, a continental framework, describes the strategic course that the continent's mining industry will take. It offers a thorough and all-encompassing strategy to optimise the developmental advantages of mineral resource exploitation while maintaining social equality and environmental sustainability. The AMV was adopted by African heads of state and government at the African Union Summit in February 2009. It was developed by the African Union Commission (AUC), in collaboration with the United Nations Economic Commission for Africa (UNECA) and the African Development Bank (AfDB), along with extensive consultations with various stakeholders including governments, civil society organisations, private sector entities, and development partners.
5 The Kimberley Process is a joint initiative involving governments, international organisations, and the diamond industry aimed at preventing the trade of conflict diamonds (also known as 'blood diamonds') and ensuring that rough diamonds are sourced ethically and do not finance armed conflicts or human rights abuses. The process was established in 2003 and seeks to promote transparency and accountability in the diamond supply chain. Source: https://www.kimberleyprocess.com/en/what-kimberley-process.
6 'Zama Zama' is a term used in South Africa, particularly in the context of mining. It refers to individuals or groups engaging in illegal artisanal mining activities, often in abandoned mines or areas where mining is prohibited. These informal miners operate without proper permits or adherence to mining regulations. Zama Zamas are typically involved in extracting minerals, such as gold or diamonds,

through small-scale, unauthorized means. The term is derived from the Zulu and Xhosa languages and roughly translates to 'try your luck' or 'take a chance,' reflecting the risky and often precarious nature of such illegal mining activities. The Zama Zama phenomenon is associated with various social, economic, and environmental challenges, including safety hazards, environmental degradation, and conflicts with formal mining operations and law enforcement.

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Part 4

Future perspective

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12 A regional policy approach for the SADC

Mariske van Aswegen and J. Ernst Drewes

12.1 Introduction

Regional policy in the Southern African Development Community (SADC) could influence the supranational and subnational locational decisions of government and industry by offering inducements to investors through tax incentives, grants, subsidies, regional employment premiums, and so on. Therefore, developing and implementing a supranational regional policy could be considered a step towards modernising and restructuring the economic foundation of this peripheral region by encouraging a shift towards a more sustainable and efficient production model, while also ensuring that it remains consistent with the underlying subnational objectives. A **threefold regional policy analysis** was relevant throughout this book, i.e., (i) analysing policies that currently follow a silo approach in an integrated manner, (ii) the investigation of said policy guidelines through the determination of functional planning instruments in the form of physical infrastructure, and iii) evaluating existing and potential trade and economic interactions among the member states of the SADC.

This concluding chapter aims to integrate spatial and sectoral policy frameworks and practically apply the goals and objectives through the appropriate and timely application of spatial targeting instruments within the SADC as a developing region. Proposals for the determination of regional development policy for the SADC, coupled with an implementation agency to facilitate progressive integration and interaction, are provided.

12.2 Synthesis

The preceding chapters highlight the crucial role of regional planning and explicit regional policy for the SADC. A theme that was visible throughout the three parts of the book and its individual chapters is that of implicit regional planning policies, coupled with a lack of cross-border visions, hampering the ideal of more balanced and robust regional development.

The **first part of the book** (Chapters 2, 3, and 4) focused on regional policy and spatial planning in general, concluding in Chapter 2 that countries (and the regional economic bloc), without explicit regional policies, will

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continue to lag and not reach their inherent potential. It was highlighted that regional planning in the SADC is oversimplified, not considering the multiple complexities, interactions, and complementarities that exist or could be exposed. The focus should therefore be on enhancing regional connectivity and attaining a more balanced economic bloc through interregional projects and policies. The concept of peripherality, its associated characteristics, and its implications for regional resilience was the focus of Chapter 3. This chapter highlighted that economic growth and development within the SADC is largely determined and hampered by its peripheral locality, i.e., location and spatial dynamics. A foundation for understanding the SADC's position in the global context was established, and explanations for lagging growth were offered. The chapter highlighted that the development and growth of regions are closely tied to their spatial characteristics, whether driven by internal factors (endogenous growth) or external influences (exogenous influences), which are in turn interlinked with the spatial characteristics of each of the other SADC countries. It is subsequently proposed that through a thrust towards more robust internal interactions, impelled by concentration and clustering, a more resilient region could be established. Resilience was underlined to hinge on a threefold approach involving institutions, infrastructure, and targeted investments. This supports the region in being more adaptable to external factors. A closely knit integrated and inward-focused SADC will strengthen the individual countries, as well as the economic bloc in its entirety, transforming it into an adaptable and outward-looking region. Chapter 4 delved into the intricate, mutually dependent and often dialectic relationships between subnational and supranational regionalism. Each of these levels endeavours to address inequalities due to historical (i.e., colonial and apartheid legacies) and resource imbalances, with the subnational policy informing and strengthening the supranational level due to their interconnected nature. On the supranational level, the type and level of political influence impact greatly on the disparities among member states. It is further exacerbated by differences in national resource endowments. The chapter proposes collaborative efforts between subnational and supranational levels to mitigate these inequalities. On the subnational level, regionalism establishes stronger relationships between local communities and government programmes as well as attends to urban-rural divides. A focus on regional sector-based policies spanning multiple levels of governance, i.e., tourism, will strengthen both national and supranational interventions through increased collaboration. On the supranational level, it was recognised that economic synergies among member states could benefit the global competitiveness of the larger regional bloc.

The **second part** of the book (Chapters 5, 6, and 7) was focused on the physical and structural aspects of regional development within the SADC. The initial focus of Chapter 5 was on development corridors as spatial planning instruments to promote cohesion and sustainable development within RECs. The main contribution of development corridors to spatial planning

is the focus on balanced development through the distribution of economic functions across the identified corridor in a network approach, reinforcing the distribution of economic opportunities where agglomeration economies will thrive. Policymakers and governments have the opportunity to adjust and synchronise national as well as regional frameworks and policies with a renewed focus on these connective ribbons of focused development spanning across national borders. The explicit spatial targeting and geographical application of such transformative corridors, through scientific reasoning, form the main message of this chapter. This will allow policymakers to achieve a unique and often elusive balance between political goals and sound spatial targeting. In response to the agglomeration economies focus of Chapter 5, the subsequent chapter, Chapter 6, was focused on establishing a settlement profile for the entire SADC region, leveraging the hexagon settlement base, and applying the Getis-Ord Gi* statistic. The establishment of this novel settlement profile for the SADC provides an understanding of the distribution of population, economic nodes, as well as social and physical infrastructure. The comparative settlement typology provides perceptions regarding the interactions within the urban system hierarchy as well as identifies vulnerabilities and disparities in a supranational region. The identification of both economically vulnerable and significant areas provides a unique opportunity for shaping regional development policies and investment strategies in the SADC. Continuing the focus on physical and structural development, the final chapter in this section, Chapter 7, focused on the significant relationship between regional infrastructure and trade in the economic bloc. It was established that both hard and soft infrastructure play a crucial role in trade enhancement and regional integration. The focus on the island states of Mauritius and Seychelles provides a unique perspective on the complex interplay between infrastructure development and trade integration. Both these island nations exhibit advanced infrastructure development in comparison to other SADC countries but lag in trade integration due to their geographic isolation and sectoral dependencies, typical of peripheral regions. The chapter established the need for a dynamic focus on enhancing integration through large-scale infrastructure projects by means of regulatory reforms, foreign direct investment (FDI), international collaboration (especially among member states), regional development banks, and public-private partnerships. Conclusively a call is made for improved coordination between members of the SADC with a focus on coherent regional infrastructure plans, resource pooling, and more active international partnerships. Such a holistic approach to regional policy can foster economic growth and sustainable development in the SADC, as well as address infrastructure shortages.

Having focused on both the policy environment and the hard infrastructure of the SADC, the **third part** of the book (Chapters 8, 9, 10, and 11) was dedicated to understanding the existing trade relations and economic intricacies of this economic bloc. Chapter 8 elucidated that while global trends suggest that industrial location might be less important due to globalisation

and technological advancements, practical evidence suggests otherwise. The focus of the chapter was on establishing the critical role of industrial location and the impact it has on the competitiveness of industries within the SADC. Numerous factors impacting the competitiveness of industries were identified, including technological advances, political stability, human resources, hard and soft infrastructure, agglomeration effects, and being land-locked or sea-locked. Based on the aforementioned factors, each location is recognised to have a unique competitive advantage, which could be explored through improved transport infrastructure, addressing border challenges and related corruption, and recognising the variety each of the member states has to offer. The chapter recommends creating a productivity-enhancing regional system and technology-based ecological ambition to boost regional competitiveness. The subsequent chapter, Chapter 9, explored in detail the untapped potential of intra-regional trade in the SADC. Policy constraints and historical challenges are indicated as impeding the economic progress in the economic bloc. Numerous opportunities on an importer-product-export level for intra-regional trade, encouraging network interaction and opening new markets, are discussed. The results reveal over 4,000 high-value untapped trade opportunities in sectors such as transportation, machinery, textiles, and clothing products. The authors proposed that these findings inform the prioritisation of development strategies and infrastructure development for deeper economic and spatial integration. It is affirmed that, over time, these untapped opportunities could provide the solution towards industrialisation and increased international competitiveness of the SADC and the continent. Keeping with the trade perspective, Chapter 10 conducted a comparative evaluation of regional integration and industrialisation. The chapter highlighted numerous challenges faced by the SADC, i.e., primary sector dependence, constrained diversification, confined commodity export, and limited value addition. The urgency of departing from the heavy dependence of all member states on the primary sector and commodity exports is continuously emphasised, as this focus hinders long-term growth and global competitiveness. A visible link with previous chapters' appeals for prioritisation of economic and spatial integration, improved trade infrastructure, and trade liberalisation is apparent. Further, a focus on strengthened resource-based industrialisation (RBI) through synergised regional value chains to leverage competitive advantages, acquiring and transferring technology for industrial production, labour productivity, and policy harmonisation through supranational institutions are pertinent proposals emanating from the analysis. Taking a case-study approach, the concluding chapter, Chapter 11, deliberated on artisanal mining as a significant contributor to livelihoods in the SADC, with a focus on South Africa. However, its informal and unsustainable practices have negative consequences such as environmental degradation, social inequalities, and economic instability, leading to conflicts and undermining regional policy goals. The chapter drew attention to the importance of formalising artisanal mining through improved standards, conflict

management, and increased safety regulations in this sector. Numerous proposals became evident through a detailed analysis of the Kimberley (South Africa) case study, which could be transferred to many of the member states grappling with this challenge. These proposals include strengthening legal and regulatory frameworks, simplifying licensing procedures, raising awareness, providing training, facilitating access to finance, promoting cooperative mining, enhancing monitoring and enforcement, engaging with local communities, and fostering cross-border cooperation.

12.3 A future policy perspective for the SADC

Similar to the synthesis and the book's overall approach, the subsequent section will be dealt with in terms of the three main perspectives as identified, i.e., policy, structural, and economic and trade perspectives.

12.3.1 Regional policy approach

The first three chapters of the book provided an analysis of regional policy, or the lack thereof, as well as the existing approaches thereto in the SADC. A twofold approach to establish a more robust SADC became evident throughout the preceding chapters. Firstly, an endogenous approach (inward focus) on strengthening the bloc as a REC is proposed, and secondly, an exogenous (adaptability) focus on a network approach with advanced economies will be highlighted. This builds on the dialectic relationship between subnational and supranational regionalism in attaining regional goals.

I. **Endogenous focus:** From this, it is acknowledged that an explicit policy focus on regional integration should form the basis of the economic bloc moving forward into a state of local industrialism. In identifying the regional imbalances and addressing these in a progressive and focused regional policy, economies of scale and effects of cumulative causation will be enabled. Regional policy is advocated as a de-locking mechanism focusing on stronger and more effective institutions, spatially targeted interventions, and large-scale infrastructure investments (refer to Section 12.3.2). It is proposed that the subnational regional sector-based policies inform the broad-based interventions of the SADC but also that individual national approaches note supranational projects and investments in their individual policy and strategic planning frameworks. Furthering an endogenous focus, indigenous creation is proposed with a focus on local regional technologies and industries' experiences (Martin & Sunley, 2006). Regional economic diversity should be promoted (refer to Section 12.3.3) emphasising the value of heterogeneity and the positive effects associated with related variety in economic industries (Martin & Sunley, 2006). It is furthermore identified that the overarching regional policy must support and promote value addition to bolster local employment

and labour productivity through enhanced industrial production. Lastly, radical industrialisation focusing on local endowments should drive the SADC into a more advanced era.

II. **Exogenous openness:** As a peripheral lagging region globally, the integration with and investment from leading regions deserves a strong focus. It is upheld that exogenous assistance is crucial for breaking barriers on the global scale. Active measures should be identified to include the SADC in the world order through the strategic development of external networks and linkages (Lagendijk & Lorentzen, 2007), which in turn leads to reorientation and renewal of the region. Strategic coupling (Manning & Richter, 2022) is a core approach for the SADC, whereby linkages with leading global firms will establish a symbiotic relationship with local actors in a knowledge exchange approach to empower peripheral regions to upgrade into higher-level market capabilities. Furthermore, South-South relations as a basis to strengthen import substitution is pertinent in this network approach. Such a focus will lessen historical economic and structural dependence on the developed world (Inotai, 1991). Additionally, a transfer to modern technologies, appropriate institutional arrangements and organisational structures, and innovative ideas from elsewhere (Castaldi et al., 2004) could further add to a groundbreaking approach for regional integration of the SADC.

This twofold approach to policy formulation aims to establish an increased connectivity through investments within the trade bloc and with global markets, stressing that regionalism from within and outside the borders of a single nation is intrinsically linked to each other. Carlsson et al. (2014) maintain that the complex relationship between endogenous and exogenous approaches, and more so, balancing strategies of endogenous and exogenous development, will lead to an increase in both adaptation and adaptability of any region, establishing a more resilient SADC. Subsequently, more detailed proposals on a structural level will follow.

12.3.2 Structural approach

The proposals emanating from the second section of the book are underscored by the importance of establishing an appropriate and comparative regional settlement profile (refer to Chapter 6) for the economic bloc. This settlement profile is proposed to be used as the basis for a regional strategic framework, as it enables the comparison of multinational settlements, which is the fundamental step in spatial policy-making and development planning. This enables evidence-based and informed policies and interventions on a place-specific basis, and fosters collaboration across national borders. Other structural components as part of a regional bloc approach include that of general infrastructure, and specifically the innovative use of development corridors. It was established that spatially targeted development

corridors, supported by scientific reasoning, are pivotal in establishing and strengthening cohesion in the SADC, as has occurred elsewhere in the world. Development corridors linking geographically remote areas require harmonised regulations and procedures across levels of government, and further cohesion among member states. Additionally, greater and strategically prioritised investment in infrastructure projects is pivotal in fostering trade in the SADC. Investment from various sources is proposed, including public and private sectors, FDI, as well as regional development banks and international trade organisations. This should be centrally (SADC) coordinated to align infrastructure development priorities, prevent duplication, and share costs where applicable. A regional approach to infrastructure, through collaboration and multilateral institutions, will lessen the current deficits and establish new markets between member states.

12.3.3 Economic and trade approach

The lack of competitiveness of the SADC should be addressed by a regional industrialisation agenda, focused on a productivity-enhancing regional system, and supported through a technology-based ecological objective. More specifically, a focus on enhanced transportation infrastructure, streamlined border procedures, and addressing delays and corruption is proposed. This could be further strengthened through the beneficiation of natural resources in a drive towards increased, but appropriate, industrialisation. Furthering industrialisation and regional competitiveness, a renewed focus on intra-regional trade is proposed to be supported through the identified untapped regional trade opportunities in sectors such as transportation and machinery, and numerous opportunities in textiles and clothing products among the member states.

This will enhance the region's competitiveness and support new networking interactions, deeper cooperation among member states, technology transfer, knowledge exchange, reducing regional disparities, better resource allocation and efficiency, increased competitiveness, a larger market, and economies of scale. Subsequently, a focus on combining regional integration and industrialisation is proposed to be attained in a targeted manner through deeper spatial and economic integration. Practically, this will include harmonised trade policies, providing supportive infrastructure, and eliminating trade barriers among member states. The regional policy should furthermore set out to bolster external trade relations (outside of the member states). Simultaneously, focusing on gaining access to international markets through the digital economy will strengthen global integration. A SADC Regional Development Fund as an umbrella organisation could potentially address these practicalities and assist each member country in identifying and enhancing their unique specialisation sectors. Moreover, it is proposed that all member states formally commit to supporting a supranational umbrella organisation through adequate financial and human resources, which will

establish coordinating partnerships among the various stakeholders and focus on harmonised policy approaches.

12.4 Conclusion

The establishment of a supranational development agency in the likeness of a SADC Regional Development Authority (SADC-RDA) could act as a supranational overseeing authority, with various inputs and levels of participation. At present, the Secretariat of the SADC is linked to furthering regional integration and industrialisation in the region, coupled with establishing regional infrastructure and regional communication (refer RISDP, 2020). The challenges are, however, a reason for concern, as regional funds are not available to support the objectives of the Secretariat (also refer to Chapter 10). Further impairing the success of the Secretariat is the limited political commitment as well as the lack of capacity across various levels.

Representatives from all member states are proposed to participate in such an RDA, with the addition of an agent(s) from economic blocs with successful experience with supranational management, i.e., the European Union (EU), as a form of strategic coupling. This will ensure that knowledge sharing and learned experience provide for an objective approach.

The RDA within the SADC will play a multifaceted and pivotal role in advancing regional development and integration. Various roles and responsibilities are identified and elaborated on:

1. **Regional Development Fund focused on infrastructure:** The SADC-RDA will manage and allocate resources from the proposed Regional Development Fund to finance critical infrastructure projects within the

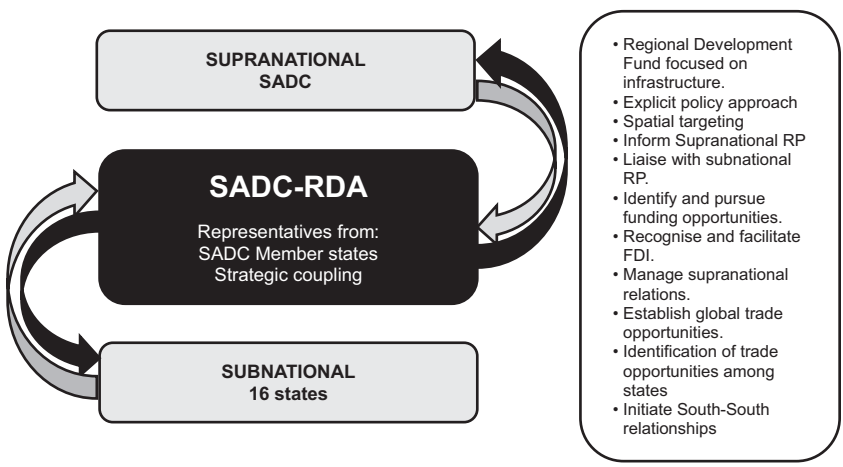

Figure 12.1 Proposed SADC-RDA

SADC region. This includes transportation networks, energy facilities, telecommunications, and other key infrastructure needed for economic development.

2. **Explicit policy approach:** The SADC-RDA will work on formulating and promoting explicit regional development policies. These policies will outline the strategic direction for infrastructure development, economic growth, and regional integration within the SADC.
3. **Spatial targeting:** To maximise the impact of development efforts, the SADC-RDA will engage in spatial targeting. This involves identifying specific geographic areas within the SADC region where interventions are needed most and tailoring development initiatives accordingly. This is proposed to be done in a coordinating manner, considering existing interaction and potential as identified at the subnational level.
4. **Inform supranational regional policy:** The SADC-RDA will serve as a critical source of information and insights for the regional policy-making bodies and governments within the SADC. It will provide data and analysis to inform decision-making processes.
5. **Liaise with subnational regional policy:** Building relationships and collaboration with subnational regional policymakers and authorities will be vital. The SADC-RDA can help coordinate efforts between the supranational and subnational levels to ensure coherence in regional development initiatives.
6. **Identify and pursue funding opportunities:** One of the primary functions of the SADC-RDA will be to identify potential funding sources for regional development projects. This could involve seeking grants, loans, or investments from international donors, financial institutions, and private sector partners.
7. **Recognise and facilitate foreign direct investment:** The SADC-RDA will work to attract foreign direct investment into the SADC region. This includes creating an environment conducive to investment, offering incentives, and connecting potential investors with viable opportunities.
8. **Manage supranational relations:** The SADC-RDA will serve as a key entity for managing relations with other regional organisations, neighbouring regions, and international partners. This can foster collaboration and support for SADC's development goals.
9. **Establish global trade opportunities:** The SADC-RDA will actively seek opportunities to expand the SADC's global trade presence. This could involve negotiating trade agreements, identifying export opportunities, and promoting the region's products and services on the international stage.
10. **Identification of trade opportunities among states:** Within the SADC, the RDA will play a role in identifying and facilitating intra-regional trade opportunities. This can involve promoting trade between member states, reducing trade barriers, and streamlining customs procedures.

11. **Initiate South-South relationships:** The SADC-RDA can initiate and nurture relationships between SADC countries and other regions in the Global South. Such partnerships can lead to knowledge sharing, technology transfer, and collaborative development projects.

Various other responsibilities and facilitation mechanisms can be added and included as part of the aforementioned. In summary, the SADC-RDA will be a dynamic organisation with a broad mandate to drive regional development, infrastructure investment, and economic growth. Its activities will be instrumental in realising the SADC's goals of enhancing the quality of life for its citizens, promoting economic integration, and achieving sustainable development in the Southern African region.

The focus on **strategic coupling** is, however, the key to the success of such an RDA, as this allows for the deliberate recognition of well-thought-out collaboration and strategic alignments in a complex environment such as the SADC. Simultaneously, it highlights the strategic value of connecting technologies, economies, and politics and will enhance competitiveness and resilience across the region.

This book set out to provide insight into the role of the SADC in regional development matters, analyse regional policy on national, regional, and continental scales, with reference to the SADC, and evaluate the inherent potential in the regional economy as well as barriers to regional development.

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