

LOCAL ECONOMIC DEVELOPMENT:

Innovative measurement tools for regional and local economic development

**Presentation by:
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CONTENT OF PRESENTATION

What is LED

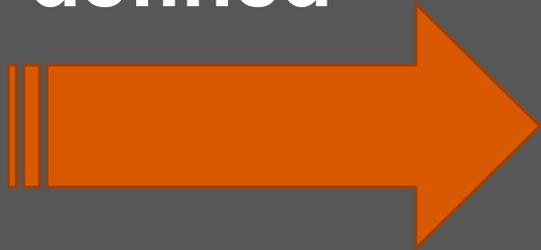
Issues at Local Government affecting LED

LED specific issues

LED tools



Regional and local economic development defined



- RED and LED is **everybody's** business and requires local **champions**.
- RED and LED is **Development Economics** on local and regional level.
- RED and LED: the **building blocks** of any national economy.
- LED in SA is a **legal requirement** in terms of the Constitution (Section 152 and 153).

- (1) All socio-economic activities/initiatives.
- (2) By all LED partners/agents (government / business / communities).
- (3) Within a demarcated geographical area.
- (4) With the aim to facilitate economic development, job opportunities and improved quality of life (Blakely & Meyer, 2015).



RED and LED defined in the developing context as:

LED Roleplayers

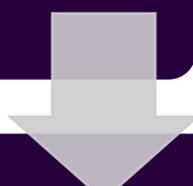


LED Context

Decentralisation: LED is primarily the responsibility of local municipalities, supported by provincial and national spheres.



Inclusivity: Emphasis on job creation, support for SMMEs, informal sector development, and community participation (pro-poor).



Context-Specificity: LED strategies must reflect the unique economic potential and socio-political realities of each locality.



Partnership-Oriented: Encourages collaboration between the public sector, private investors, NGOs, and communities.

Structural and Governance Challenges at Municipalities

Poor Financial Management: According to the Auditor-General's 2023 report, only 38 out of 257 municipalities received clean audits. Rampant irregular, fruitless, and wasteful expenditure undermines LED project funding and credibility.

Capacity Constraints: Many municipalities lack qualified personnel to manage LED units. High vacancy rates in key posts and reliance on consultants compromise project sustainability.

Political Interference: Cadre deployment and factional politics often result in the appointment of unqualified individuals, hampering institutional effectiveness.

Weak Public Participation: LED strategies are frequently developed without meaningful community engagement, leading to misalignment between projects and local needs.

Infrastructure Deficiencies: Basic infrastructure such as roads, water, electricity, and sanitation are failing in many regions, deterring investment and economic activity.

Corruption and Mismanagement: Procurement irregularities, embezzlement, and lack of accountability persist in local governance structures, reducing public trust and donor confidence.

Key Barriers to LED Implementation at Local Level

- **Lack of Institutionalisation of LED Units:** LED is often treated as a secondary function at municipalities, with limited authority or resources.
- **Inadequate or Outdated LED Strategies:** Many municipalities operate with outdated LED plans and lack clear objectives, projects and performance indicators.
- **Minimal Private Sector Engagement:** Distrust between municipalities and business stakeholders hampers the formation of viable public-private partnerships. Regulatory red tape also discourages investment.
- **Silo-Based Governance:** Poor coordination between planning, finance, infrastructure, and LED units results in disjointed project implementation.
- **Ineffective LED Forums:** Although many municipalities have established LED forums, these platforms are often inactive or lack strategic influence.
- **Limited Funding:** LED strategies are frequently approved without dedicated funding lines, making implementation dependent on donor grants or ad hoc allocations.
- **Policy Uncertainty:** Frequent changes in political leadership and lack of continuity in LED approaches create an unstable planning environment.



Existing Measurement Tools

1. Regional classification system (RSC) (Quan)
2. Rapid rural assessment (RRA) (Quan and Qual)
3. Best practice incubator index (BBII) (Qual)
4. Best practice business chamber Index, (BBBCI) (Qual)
5. **Local Government Enabling Environment Assessment Tool (LGEEAT) (Quan)**
6. **Inclusive growth index (LGIGI) (Quan)**
7. Multi-dimensional Regional economic development index (MREDI). (Quan)
8. Economic Development Potential Assessment Tool (EDPAT) (Quan and Qual)
9. Amended Lived Poverty Index (ALPI). (Quan)
10. **Municipal Financial Health Index (MFHI) (Quan)**
11. Regional Tourism Competitiveness Index (RTCI) (Quan and Qual)
12. Multi-variable Location Quotient Index (MLQI) (Quan)
13. Local Government Risk Management Tool (LGRMT). (Quan)
14. **Serious game (card game) on strategy development for regional development.**
15. Resilience index (Quan) (in progress)
16. Competitiveness index (Quan and Qual) (in progress)
17. Business environment index (Quan and Qual) (in progress)
18. Local Government 4IR Readiness index (in progress)
19. Manufacturing development Index (in pipe-line)
20. Export confidence Index (in pipeline)
21. **Transformation Index (Quan)**



LED Best practice principles (SLR)

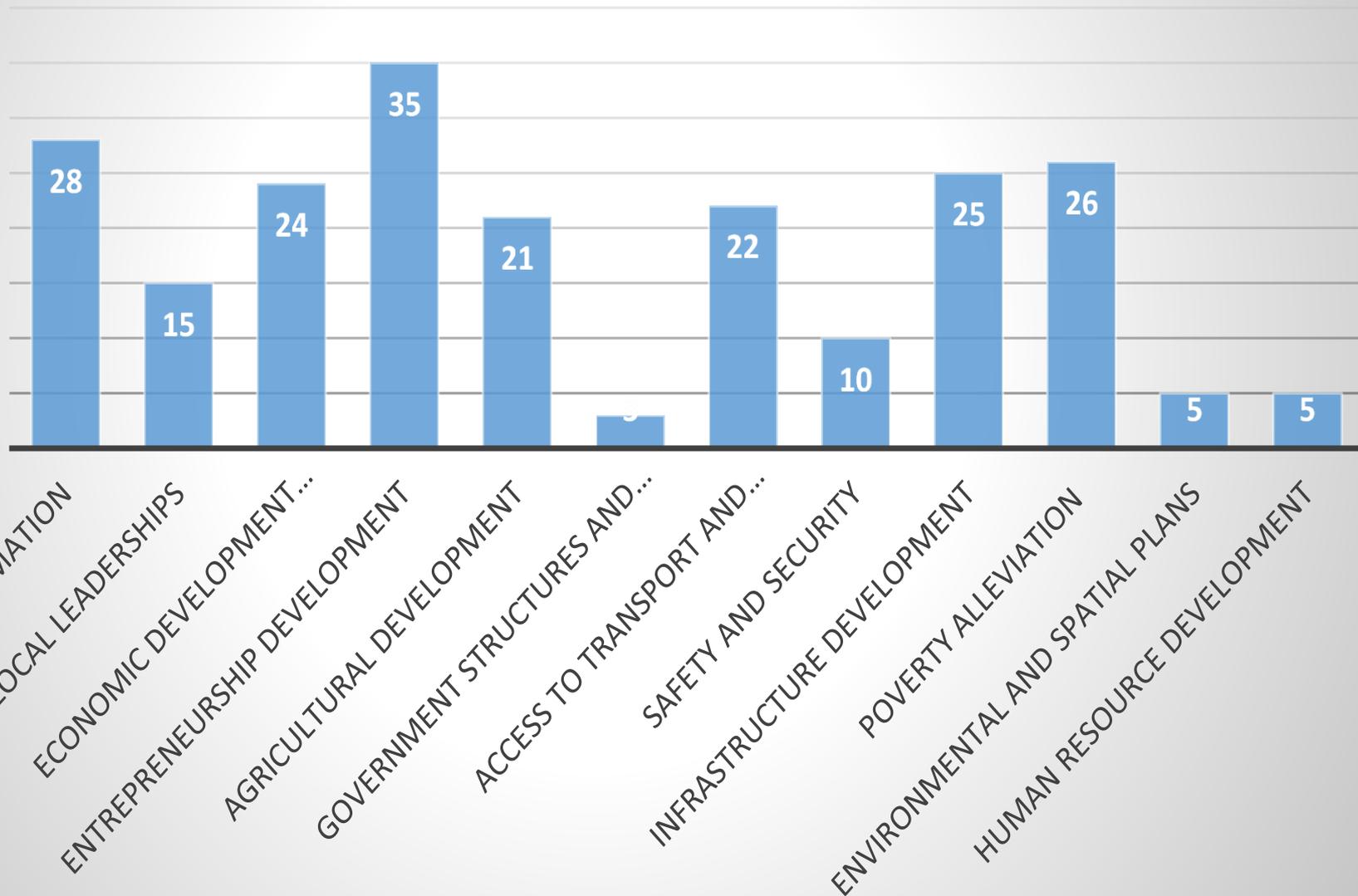


Original keywords from document analysis	Broad overall themes from keywords (ranking and ratio in brackets)
Local government, Good governance, Institutions, LED agencies, Service delivery, Bottom-up approach, Strategic planning process, Balance between pro-poor and pro-growth, Local leadership	Decentralised Strategic planning and institutional development (Rank no 1) (Ratio 1:1)
Competitive advantage, enabling environment, resources and capacity, incentives, marketing.	Improvement of local regional attractiveness (Rank no 2) (Ratio 0.7:1)
Investment, value chain development, clusters, special economic zones, infrastructure development	Cluster development and infrastructure (Rank no 3)(Ratio 0.6:1)
Partnerships, collaborations, networks, participation	Partnerships and participation (Rank no 4) (Ratio 0.5:1)
Entrepreneurship, business development	Entrepreneurship and business development (Rank no 5)(Ratio 0.4:1)
Quality of life, poverty alleviation, inclusive development	Inclusive development (Rank no 6)(Ratio 0.3:1)
Employment, economic sectoral diversification	Economic sectoral diversification for employment (Rank no 7)(Ratio 0.3:1)
Skills development and training	Skills development and training (Rank no 8)(Ratio 0.26:1)
Innovation, technology, local knowledge	Innovation and knowledge (Rank no 9)(Ratio 0.23:1)

TOOL 1: Enabling Environment Assessment Tool

- Local government is required to ensure that an Enabling Environment is created for local business success.
- Quantitative research, use a questionnaire to collect primary data from all local roleplayers/stakeholders. Total of 12 factors to predict level of enabling environment.
- Possible to test progress within a region and compare regions. Research done and tested in SA, Netherlands and Poland and 12 factors were identified.
- The scale has been tested and validated.
- *Meyer, D.F. 2014. Local government's role in the creation of an enabling developmental environment. Administratio Publica, 22 (1), 24-46.*
- *Meyer, D.F. & Meyer, N. 2016. The relationship between the creation of an enabling environment and economic development: A comparative analysis of management at local government sphere. Polish Journal of Management Studies, Vol 14(2):150-160.*
- *Meyer, D. 2018. Local government and the creation of an enabling environment: Perceptions of female entrepreneurs. Paper presented at the 7th International Scientific Conference of Management in High Tatras, Slovakia on 26 September 2018 to 29 September 2018. p. 835-841.*

12 Factors for the creation of an enabling environment: 2015:11:19. LED workshop.



Case study: Midvaal and Emfuleni local municipal areas, 2021

Enabling environment statement* Government is...		Total sample (%)		Midvaal LM (%)		Emfuleni LM (%)	
		Mean	Std D	Mean**	Std D	Mean**	Std D
C1	Creating partnership formation	2.542(3)	1.428	2.417(10)	1.223	2.635(4)	1.525
C2	Providing local leadership	2.557(8)	1.390	2.395(8)	1.234	2.667(7)	1.464
C3	Creating economic development actions (LED)	2.593(12)	1.384	2.388(7)	1.188	2.729(10)	1.475
C4	Providing sufficient infrastructure development	2.578(11)	1.378	2.279(1)	1.159	2.769(11)	1.452
C5	Providing sufficient entrepreneurial opportunities	2.550(5)	1.345	2.411(9)	1.157	2.639(5)	1.432
C6	Providing sufficient access to opportunities	2.547(4)	1.353	2.326(2)	1.119	2.689(8)	1.448
C7	Promoting a safe and secure environment	2.552(6)	1.334	2.380(6)	1.105	2.659(6)	1.419
C8	Creating structures, capacity, policies and initiatives	2.567(9)	1.369	2.364(5)	1.212	2.715(9)	1.430
C9	Assisting in poverty alleviation and social development	2.573(10)	1.367	2.326(2)	1.219	2.729(10)	1.423
C10	Ensuring sound environmental and spatial development actions	2.504(2)	1.296	2.357(4)	1.198	2.584(2)	1.337
C11	Improving human resource development	2.555(7)	1.419	2.512(11)	1.206	2.596(3)	1.521
C12	Promoting agricultural development	2.428(1)	1.407	2.341(3)	1.228	2.482(1)	1.500

Statement responses were measured on a Likert scale ranging from 1 = strongly disagree to 6 = strongly agree. Figures in brackets represent ranking from most to least problematic. Bolded figures represent the top 3 rankings.



TOOL 2: ECONOMIC DEVELOPMENT POTENTIAL ASSESSMENT TOOL

- Tool based on theories by **Paul Romer** and **Edward Blakely**.
- Tool to assess the economic development potential of a region/area.
- **Development potential (DP) = Resources (R) x Capacity (C).**
- By using such a tool, various regions could be assessed and compared.
- Both secondary data and primary data collection could be used for best results.
- Tool tested in the Vaal Triangle region of Gauteng and all provinces in South Africa.
- *Meyer, D.F. 2018. The development and application of a regional and local economic development assessment instrument. International Journal of Economics and Finance Studies, 10(1), 16-32.*

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Classification and scoring system

Index classification	Index scores
High development potential	70 to 100
Medium development potential	40 to 69
Low development potential	0 to 39

0 - No capacity/resources and having a major negative impact on development.	1 – Very limited levels with a negative impact on development.
2 – Limited levels with a negative impact on development.	3 – Below acceptable levels with a negative impact on development.
4 – Below average levels with negative support for development.	5 – Average levels in support of development.
6 – Above average levels in support of development.	7 – Good acceptable levels in support of development.
8 – Very High levels in full support of development.	9 – Close to maximum levels, in full support of development.
10 - Full and abundance of capacity/resources at maximum possible levels.	

Resource	Emfuleni Score (between 0 and 10)	Metsimaholo Score (between 0 and 10)	Midvaal (between 0 and 10)	Capacity	Emfuleni Score (between 0 and 10)	Metsimaholo Score (between 0 and 10)	Midvaal
Natural	(6) Limited minerals in the region, but the Vaal River exists	(6) Minerals such as coal are found and the Vaal River is a resource	(5) Limited minerals, but the Suikerbos Reserve and Vaal River are resources in this area	Government	(1) Lack of acceptable good governance	(2) Lack of acceptable good governance.	(9) Good levels of governance
Strategic locality	(7) Within the Gauteng Province	(5) Located outside of Gauteng	(8) Located within 60km of Johannesburg CBD	Business	(7) Strong business sector and leaders	(5) Strong business sector but less leadership	(4) Limited business development with lack of leaders.
Labour	(8) Large labour force is available in townships of the Vaal	(7) Smaller but large labour force available in Zamdela	(7) Labour force available in townships such as Siculo, Lakeside, Orange Farm	Infrastructure	(2) Large backlogs	(3) Large backlogs	(4) Large backlogs
Investment	(4) Lack of capital investment by major companies	(6) Capital investment by Sasol industries	(7) Capital investment in R59 development corridor	Social services	(5) Average community facilities.	(5) Average community facilities	(6) Better than average community facilities
Public Transport	(3) Limited public transport available	(3) Limited transport available	(3) Limited public transport available	Technology	(7) Above average with universities.	(6) Above average because of Sasol industry	(4) Limited technology
Communications	(5) Average levels, with weak mobile data speed	(5) Just below average levels, but strong mobile systems	(5) Just below average levels, but strong mobile systems	Innovation	(7) Above average with universities.	(8) High level because of Sasol industry.	(4) Limited levels of innovation
Industrial composition	(6) Strong sector, dominating but stagnating	(6) Strong sector, dominating but stagnating	(6) Smaller sector but growing	Education	(8) High levels with many institutions	(6) Above average access	(4) Limited access to education
Export	(4) Diminishing over the last few years	(7) Strong export sector dominated by Sasol	(6) Smaller export but growing	Political	(2) instability.	(2) High levels of political division	(9) Very stable political situation
Government spending	(2) Below average, lack of budget	(3) Below average, lack of budget	(3) Below average with a lack of budget	Entrepreneurship	(6) Above average with support.	(6) Above average with support	(5) Limited support.
Markets	(6) Large local market	(5) Smaller local market	(4) Very small local market	Size of economy	(7) Large economy and specialised, but stagnating	(6) A large economy, and specialised, but stagnating.	(4) Small economy but growing
Finance	(3) Limited access to finance	(3) Limited access to finance	(4) Limited access but more positive outlook	Community	(6) Good involvement	(6) Good involvement	(6) Good involvement
				Partnerships	(7) Strong between and within the public and private sector.	(5) Average partnership formation	(7) average partnership formation
Average Total score	5.00 (or 50.0%)	5.10 (or 51.0%)	5.27 (or 52.7%)	Average total score	5.50 (or 55.0%)	5.00 (or 50.0%)	5.5 (or 55.0%)
Final result	Emfuleni area: 5.00 x 5.50 = 27.5 index		Metsimaholo area: 5.10 x 5.00= 25.5 index		Midvaal area: 5.27 x 5.50 = 28.98 index		

^D Case study results

Area	Result	Comments
Emfuleni LM	$R\ 5.00 \times C\ 5.50 = 27.5$	Low development potential.
Metsimaholo LM	$R\ 5.10 \times C\ 5.00 = 25.5$	Low development potential
Midvaal LM	$R\ 5.50 \times C\ 5.50 = 28.98$	Low development potential

Tool 3: Multi-dimensional Regional Economic Development Index (MREDI)

- Index developed as a more comprehensive tool to measure economic development if compared to HDI or GDP per capita.
- Index is flexible and could be used on a national, regional or local level.
- Developed as a multi-dimensional measurement tool for regional development.
- Consists of 18 indicators and 4 sub-indexes.
- Globally data are available.
- Variables also weighted (international expert process).
- Useful in analysing trends, strategy development and for comparisons.
- *Meyer, D.F., De Jongh, J.J. & Meyer, N. 2016. The formulation of a composite regional development index. International Journal of Business and Management Studies, 8(1), 100-116.*

TOOL 3: Economic Development Index																				
Indicator	South Africa		Eastern Cape		Free State		Gauteng		Kwa-Zulu-Natal		Limpopo		Mpumalanga		Northern Cape		North-West		Western Cape	
	1996	2016	1996	2016	1996	2016	1996	2016	1996	2016	1996	2016	1996	2016	1996	2016	1996	2016	1996	2016
Population Growth Rate	1.26	1.26	0.63	0.63	0.63	0.63	1.88	1.88	1.26	0.63	1.26	0.63	1.26	1.26	0.63	0.63	0.63	1.26	1.88	1.88
Household Size	1.12	2.25	0.56	2.25	1.69	2.81	2.25	2.81	0.56	1.69	0.56	2.25	1.12	2.25	1.69	2.25	1.12	2.81	1.69	2.81
Population Density*	0.68	0.68	0.68	0.68	0.68	0.68	3.39	3.39	1.36	2.03	0.68	0.68	0.68	1.36	0.00	0.00	0.68	0.68	0.68	0.68
Level of Urbanisation	2.38	3.17	0.79	1.59	1.59	3.17	3.97	3.97	1.59	1.59	0.00	0.00	0.79	1.59	2.38	3.17	0.79	1.59	3.97	3.97
Sub-index 1: Demographic Development	5.44	7.36	2.66	5.14	4.58	7.29	11.49	12.05	4.76	5.93	2.50	3.55	3.85	6.45	4.69	6.05	3.22	6.33	8.22	9.34
HDI	1.98	2.98	0.99	1.98	0.99	1.98	2.98	3.97	0.99	1.98	0.99	1.98	0.99	1.98	0.99	2.98	0.99	1.98	2.98	3.97
Gini Coefficient	1.74	1.74	1.74	1.74	2.60	1.74	2.60	1.74	1.74	1.74	2.60	1.74	2.60	1.74	2.60	2.60	2.60	1.74	2.60	1.74
Poverty Levels**	0.00	0.95	0.00	0.00	0.00	0.95	1.90	1.90	0.00	0.00	0.00	0.00	0.00	0.95	0.00	1.90	0.00	0.95	1.90	2.85
Literacy ***	1.00	2.00	1.00	2.00	1.00	2.00	2.00	4.00	1.00	2.00	0.00	2.00	1.00	2.00	1.00	2.00	1.00	2.00	2.00	4.00
Infrastructure Index	0.90	1.80	0.00	0.90	0.90	1.80	2.70	2.70	0.00	0.90	0.00	0.00	0.00	0.90	1.80	1.80	0.00	0.90	2.70	2.70
% of Households in Informal Housing	0.00	0.76	0.00	0.00	0.00	0.76	0.76	1.52	0.00	0.76	0.00	0.76	0.00	0.76	1.52	1.52	0.76	0.76	1.52	1.52
Crime Index****	0.00	0.00	0.00	0.88	0.00	0.00	0.00	0.00	0.00	0.88	0.88	1.75	0.00	1.75	0.00	0.00	0.00	0.88	0.00	0.00
Sub-index 2: Social Development	5.62	10.22	3.73	7.50	5.50	9.23	12.94	15.83	3.73	8.26	4.47	8.23	4.60	10.08	7.92	12.80	5.36	9.21	13.70	16.78
Economic Active Population	1.74	2.60	0.87	1.74	2.60	3.47	2.60	3.47	1.74	2.60	0.87	1.74	1.74	2.60	1.74	2.60	1.74	2.60	2.60	3.47
Unemployment	1.98	0.99	0.99	0.99	1.98	0.00	1.98	0.99	1.98	1.98	0.99	1.98	1.98	0.99	1.98	0.99	1.98	0.99	2.98	1.98
Sub-index 3: Labour	3.72	3.60	1.86	2.73	4.59	3.47	4.59	4.46	3.72	4.59	1.86	3.72	3.72	3.60	3.72	3.60	3.72	3.60	5.58	5.45
GDP Growth Rate	2.38	0.79	1.59	0.79	1.59	0.00	2.38	0.79	1.59	0.79	3.97	0.00	2.38	0.00	3.97	0.00	0.00	0.00	2.38	0.79
GDP per capita	1.85	2.78	0.93	1.85	1.85	2.78	2.78	2.78	1.85	1.85	0.93	1.85	1.85	2.78	1.85	2.78	1.85	4.63	2.78	2.78
Trade Surplus per Capita (R1 000)	0.67	0.67	0.00	0.67	0.00	1.34	1.34	2.68	1.34	0.00	0.67	2.68	0.67	3.35	3.35	3.35	3.35	2.01	0.00	0.00
Average Income per Household	0.74	2.21	0.00	1.47	0.00	2.21	0.74	2.94	0.00	2.21	0.00	1.47	0.00	2.21	0.00	2.21	0.00	2.21	0.74	3.68
Tress Index	3.11	3.11	1.55	1.55	3.11	3.11	2.33	2.33	2.33	2.33	2.33	2.33	3.11	3.11	3.11	3.11	3.11	1.55	2.33	2.33
Sub-index 4: Economics	8.74	9.55	4.07	6.34	6.55	9.43	9.56	11.52	7.11	7.18	7.89	8.33	8.01	11.44	12.27	11.44	8.31	10.40	8.22	9.58
Total Index Score, max 69.25	23.52	30.73	12.31	21.70	21.21	29.42	38.58	43.86	19.32	25.96	16.72	23.84	20.18	31.56	28.60	33.89	20.60	29.53	35.72	41.15
Total index out of 100	33.9	44.4	17.8	31.3	30.6	42.5	55.7	63.3	27.9	37.5	24.1	34.4	29.1	45.5	41.3	48.9	29.7	42.9	51.6	59.4
Overall ranking			9.00	9.00	4.00	6.00	1.00	1.00	7.00	7.00	8.00	8.00	6.00	4.00	3.00	3.00	5.00	5.00	2.00	2.00

TOOL 4: INCLUSIVE GROWTH INDEX

- Gap in the research for a comprehensive tool to measure inclusive growth.
- Inclusive growth: 'Broad-based growth', 'shared growth', and 'pro-poor growth'.
- Defined: growth must be **sustainable** in the long run, it should be **broad-based** across sectors, and **inclusive** of the large part of the country's labour force.
- Index based on 8 predictors for inclusive growth.
- Could be used on a national and regional level. Tested in the Visegrad and BRICS countries with excellent results.
- *Meyer, D.F. 2018. An analysis of inclusive growth progress in the Visegrad Countries using an alternative index. Paper presented at 7th International conference scientific conference, Management 2018. University of Prešov in Prešov, Faculty of Management, Konštantínova 16, Prešov 08001, Slovak Republic. 26 - 29 September 2018.*
- *Meyer, D.F. & Meyer, N. 2019. Assessment of Inclusive Growth performance: A comparative analysis of the BRICS countries. Acta Universitatis Danubius Oeconomica.*

Summary of indicators of inclusive growth index

Component/ Indicator	Description of indicator	Weight allocation
1. Employment to population ratio (EPR)	Measures employment environment improvements in relation to population changes. As a ratio, the raw data is from 0 – 100. The higher the ratio, the higher the contribution to inclusive growth. A ratio below 60 indicates a malfunctioning labour market (ILO, 2011).	25.0
2. GDP per capita annual growth (GDPC)	Measures economic growth and labour productivity (McKinley, 2010). The higher the growth, the higher the contribution to inclusive growth.	15.0
3. Poverty (POV)	Measures the percentage of the population above the poverty line based on \$2 per day income. The higher the percentage, the higher the contribution to inclusive growth.	15.0
4. Income equality (GINI)	Measured by the Gini Coefficient. The raw data is inverted (100 minus the original value) to indicate an increasing value as improved income equality. The higher the ratio, the higher the contribution to inclusive growth.	10.0
5. Infrastructure (INFRA)	Measures percentage of population with access to electricity and percentage of population with access to the internet. The final indication is an equal combination of the two indicators as a ratio. The higher the ratio, the higher the contribution to inclusive growth.	10.0
6. Education (EDU)	The indicator is represented by the percentage of total government budget spend on education as percentage of GDP. The higher the ratio, the higher the contribution to inclusive growth.	10.0
7. Health (HEALTH)	The indicator is represented by the percentage of total government budget spend on health as percentage of GDP. The higher the ratio, the higher the contribution to inclusive growth.	10.0
8. Dependency ratio (DEPEN)	Measured by the number of dependents as percentage of the working population. The raw data is inverted as the percentage of the population that is not dependent to indicate a higher value as a decrease in dependency. The higher the ratio, the higher the contribution to inclusive growth.	5.0

Strategic planning tool: The serious game

- A “serious game” was developed with the following objectives:
 - To teach LED “stakeholders” to better understand the concepts and processes of LED.
 - To assist with LED strategic planning.
- The game is based on the Enabling Environment Tool as well as the LED Economic Development Potential Tool.
- The Enabling Environment tool consists of 12 factors.
- The LED Economic Development Potential tools consist of two components, namely the Resources with 11 factors; and Capacity with 12 factors.

Strategic planning tool: The serious game (cont.)

- The serious game is used as part of the strategic planning process for LED.
- Stakeholders are invited to workshops where LED concepts, processes, roles and functions are explained and discussed.
- The participants are divided into groups, and the game cards are given to each group.
- The various tools and linked cards are workshopped with groups.
- After a clear understanding has been achieved of all LED-related concepts and processes, the concepts contained in the cards are prioritised and ranked.
- This forms the basis of the LED strategy with buy-in from all stakeholders.

Strategic planning tool: The serious game (cont.)

- The “serious game” also has a non-serious side to it.
- The stakeholders, still in their groups, can then compete against each other and play a “Monopoly” style learning game.
- The presenter asks groups to select 10 of the 35-factor cards to start the game.
- The presenter has a list of statements based on the content of the cards, which are randomly drawn, and if a group has selected a specific card linked to a drawn statement, the group scores points. After 20 statements have been drawn, the group with the highest score wins the LED competition.
- Example of a statement: Municipality receives an investment of R 100 million to upgrade the sewer system leading to improved infrastructure capacity, allowing for 1000 residential units. (Cards included for points: Infra development (EE); Investment (Res); Gov spending (Res); Infra dev (Cap), Size of economy (Cap).

Tool 5:
Formulation of a Multi-
dimensional Resilience
Development Index (RDI): A
Conceptual Framework in design
phase



INTRODUCTION AND BACKGROUND

- ❑ Global and multi-regional **shocks occur** regularly in the form of economic recessions, financial crises, health pandemics, political instability, war and conflict, natural disasters, human disasters such as hunger and food shortages, and environmental disasters.
- ❑ How **prepared** are countries and regions to respond to such events? And how strong are these responses and recoveries?
- ❑ A **gap** in the research exists regarding a comprehensive resilience index for measurement from an **Economic Development** point of view, which allows for the comparison of countries and regions, but also to identify problem areas for improvement to prepare for possible events.

DEVELOPMENT OF MEASUREMENT INDEXES: A PROPOSED METHODOLOGY

- ❑ **Step 1: Theoretical foundation:** “resilience thinking”, two basic conceptual dimensions of resilience thinking, (1) social-ecological non-evolutionary resilience and (2) social-ecological evolutionary resilience, which recognition is helpful to tell between resilience and adaptation, and between ecosystem concept and engineering concept.
- ❑ **Step 2:** What **type** of resilience index to be developed.
- ❑ **Step 3:** Determine the **causes** of shocks and resilience for the selected type of index.
- ❑ **Step 4:** Selection of **dimensions and variables** to create the index. (data availability)
- ❑ **Step 5:** Applying **normalization** methods to data / variables.
- ❑ **Step 6:** Finalise **scoring system** and index classification.
- ❑ **Step 7:** Allocation of **weighting** system to variables.
- ❑ **Step 8:** Calculate the sub-indices and aggregate index (0-100).



Dimensions of the Resilience Index

1. Health
2. Finance and investment
3. International trade
4. Skills and education
5. Innovation and technology
6. Entrepreneurship
7. Welfare systems and food security
8. Infrastructure
9. Safety, security and crime
10. Economy
11. Geography
12. Governance and debt



MUNICIPAL FINANCIAL HEALTH INDEX (MFHI)

SELECTED RESEARCH PAPERS

Neethling, J. R., & Meyer, D. F. (2019). **Formulation and Application of a Local Government Financial Health Index.** *Administratio Publica*, 27(4), 235-255.

Meyer, D. F., & Neethling, J. R. (2021, December). **An assessment of the financial health of the South African metropolitan municipal regions.** In *Forum Scientiae Oeconomia* (Vol. 9, No. 4, pp. 59-77).

Unlocking Financial Wellness: Delving into Urban and Rural Municipality Dynamics in South Africa using the Amended Municipal Financial Health Index (MFHI) part of book.



ABSTRACT

The problem: Over the last 20 years, South African municipal management has fallen short, particularly regarding financial management. There is an urgent need for a turnaround strategy involving structural changes, as more than two-thirds of municipalities need assistance to provide high-quality essential services

So what: The continuous financial decline of municipalities has made monitoring their financial situation more crucial than ever. Also, even though multiple financial management measuring instruments have been created, these still need to be employed to evaluate the local government sector holistically. Therefore, evaluating financial health is critical for monitoring and contrasting municipal performance.

Methods: This study evaluated four South African municipalities using an updated edition of the Municipal Financial Health Index (MFHI), which the authors first created in 2021. Four sub-indices were developed in the updated MFHI: capital investment index; solvency ratios; liquidity ratio; and revenue and expenditure index. The most recent Auditor General reports for the Local Government Financial Statements for 2019-2020 and 2022-2023 were used.

The **results** depict that among the two rural municipalities in this research, Midvaal Local Municipality scored the highest according to the MFHI, achieving 84% in the 2022/2023 book year, up 20% from 2019/2022, followed by the City of Cape Town at 73% in the same year. With just 51% in 2022-2023, the Mangaung Metro Municipality is the worst performing municipality of the four included in the study and the only municipality to have attained a smaller and declining score. The Madibeng Local Municipality improve by 11% to 55% in 2022-2023.

Conclusions: Overall, the new MFHI has proven to be highly beneficial for contrasting and evaluating financial conditions among municipalities and pinpointing profound financial issues. Thus, this index is essential to formulate much-needed recovery plans for South African municipal governments in South Africa.



- **Local government** in South Africa is synonymous with poor service delivery of essential services, inadequate infrastructure development and maintenance, low levels of economic development and most importantly the need for more sustainable and proper financial management (Managa 2012:3).
- The major **difficulties facing municipalities** are collection of sufficient revenue from basic services and the implementation of adequate financial management (Sebola and Chauke 2016:3).
- A significant number of municipalities in South Africa have **monetary and financing** constraints which hinder the execution of service delivery, infrastructure expansion, as well as Local Economic Development (LED) (Meyer 2014:5).
- Local government is seen as the **critical sphere** of the government in addressing service delivery problems as well as social and economic development issues (Koma 2014:9).
- **Financial problems** faced by local government include insufficient management practices, incompetent financial officials, high debt burdens and ineffective revenue collection (South Africa 2019).
- Mazibuko and Fourie (2013:134–138) state that there are numerous **factors which contribute to the challenges** of municipal financial management and administration such as the under and overspending of municipal allocations, under-spending of capital allocations and the over/underspending of provisional grants, low revenue collection, consumer debts as well as creditors and accounts payable.



MFHI

“The term **financial management** simply means effectively managing your utility’s financial functions. The financial functions of your utility include accounting, your policies and procedures, record-keeping and reporting systems, financial planning and forecasting practices, budgeting procedures, and financial-oversight responsibilities.

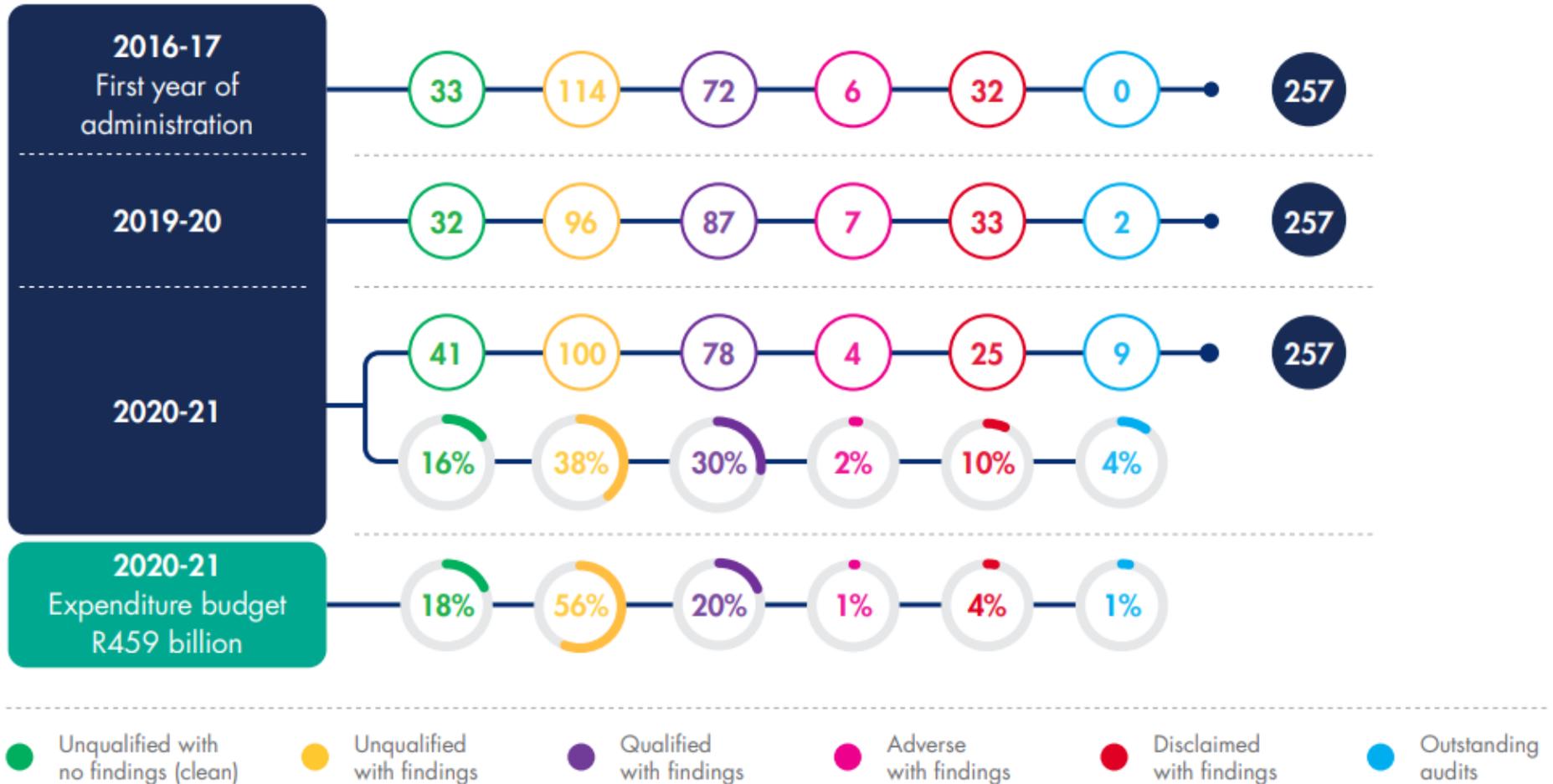
Good financial management aims to ensure that your utility is operated as a financially sustainable enterprise”. (RCAP 2011:1)



MFHI

In South Africa, the Auditor-General has a constitutional role of oversight, liability and guidance in the public sector through auditing (Van der Nest and Thornhill 2008:551).

Audit outcomes – municipalities



MFHI – Purpose and objectives

Why the index? The utilisation of this Financial Health Index (FHI) could be useful in the rapid measurement, and comparison of the financial health of local municipalities in South Africa and assist policymakers in identifying key financial issues for strategy development towards improving their financial situation.

Objective: to formulate and apply a comprehensive Municipal Financial Health Index (FHI) for local government, which quantitatively includes all the main elements of financial health.

Index and sub-indices: Consistent with the framework developed by Meyer and Neethling (2021), the MFHI includes four sub-indices and thirteen indicators that evaluate liquidity, solvency, revenue and expenditure, and capital investment.



MFHI: METHODOLOGY

- The methodology used in the study is based on a **quantitative** approach.
- The study's main **objective** was to formulate financial health index that calculates the features of financial health management in a comprehensive but user-friendly manner at the local government sphere.
- The development of the index was based on a **literature review of existing research** on financial health and the development of similar indexes.
- This new **index consists** of four sub-indexes with a total of 11 indicators. Indicators were also categorizing (**indexified**) and a scoring system was developed for normalisation.
- The estimates used in the scoring criteria are based on scoring criteria ranging from 0 (inferior score) to 5 (exceptional score). This is based on a similar study adopted by Meyer & De Jongh (2018:105), which measured economic development on a regional level.
- The quantitative segment of the research was fulfilled by means of extracting data from Audited Financial Statements as published by National Treasury and Quantec.
- All of the indicators used were allocated the same weight due to the limited factual and statistical basis e.g. when there is limited insight of the relationships between the variables.



SUB-INDEX 1: Income and expenditure subcategory and scoring criteria

Index score	0	1	2	3	4	5
1.1 Total revenue per capita (R)	Less than R2500	R2500 – R4999	R5000 – R8999	R9000 – R11999	R12000 – R14999	Above R15000
1.2 Total expenditure per capita (R)	Less than R2500	R2500 – R4999	R5000 – R8999	R9000 – R11999	R12000 – R14999	Above R15000
1.3 Service Obligations (ratio)	<0.00 – 0.70	0.71 – 0.80	0.81 – 0.90	0.91 – 1.00	1.10 – 1.20	Above 1.20
1.4 Intergovernmental revenue as a percentage of total revenue (%)	Above 40%	30 – 39.9%	20.0 – 29.9%	15.0 – 19.9%	10.0 – 14.9%	0 – 9.9%
1.5 Employee-related costs (%)	Above 40%	35.0 – 39.9%	30.0 – 34.9%	25.0 – 29.9%	20.0 – 24.9%	Less than 19.9%
1.6 Irregular, fruitless and wasteful expenditure as a percentage of total operating expenditure (%)	Above 40%	35.0 – 39.9%	30.0 – 34.9%	20.0 – 29.9%	10.0 – 19.9%	Less than 9.9%



SUB-INDEX 2: Liquidity ratio and subcategory and scoring criteria

Index score	0	1	2	3	4	5
2.1 Current Ratio	0.0 – 0.499	0.500 – 0.750	0.751 – 1.000	1.01 – 1.500	1.501 – 1.999	More than 2
2.2 Quick ratio (Acid test ratio)	0.0 – 0.499	0.500 – 0.799	0.751 – 1.000	1.01 – 1.500	1.501 – 1.999	More than 2



SUB-INDEX 3: Solvency ratio and subcategory and scoring criteria

Index score	0	1	2	3	4	5
3.1 Debt-to-worth ratio	Above 1.5	1.2 – 1.499	0.9 – 1.199	0.6 – 0.899	0.3 – 0.599	0 – 0.299
3.2 Total-debt-to-total-assets	Above 1.5	1.2 – 1.499	0.9 – 1.199	0.6 – 0.899	0.3 – 0.599	0 – 0.299



SUB-INDEX 4: Local domestic Investment

Index score	0	1	2	3	4	5
4.1 Gross Fixed Capital Formation	Less than 10%	10.0 – 14.9	15.0 – 19.9	20.0 – 24.9	25.0 – 29.9	Above 30%



Classification system

Number	Scoring allocation	Classification categories
1	0 – 39	The municipality is facing a financial instability crisis and is not financially sustainable. An urgent strategy for financial recovery is required. The municipality is either insolvent or teetering on the edge of insolvency and must ensure high-quality services to the community.
2	40 – 59	The municipality requires aid to maintain financial stability and viability and enhance its financial procedures to deliver improved services.
3	60 – 74	The municipality outperforms the average municipality in financial management and service delivery. Municipalities in this category have the opportunity to enhance their revenue and expenditure strategies to ensure sustainable financial management.
4	75 – 89	The municipality is performing well in financial management and service delivery, though there is room for further enhancements to ensure long-term financial sustainability.
5	90 - 100	The municipality excels in financial management and is a benchmark model for other municipalities.



Indicator	City of Cape Town (WC)		Mangaung Metro (FS)		Madibeng Local Municipality (NW)		Midvaal Local Municipality (GP)	
Sub-Index 1: Income and Expenditure ratios	2019/20	2022/23	2019/20	2022/23	2019/20	2022/23	2019/20	2022/23
Total Revenue per capita (R)	9 95 (3)	11 01 (3)	8 18 (2)	10 05 (3)	3 51 (1)	4 03 (2)	13 13 (4)	15 99 (5)
Total expenditure per capita (R)	9 75 (3)	10 23 (3)	7 96 (2)	10 05 (3)	4 31 (1)	4 23 (2)	12 24 (4)	14 41 (4)
Service obligation (ratio)	1.11 (4)	1.10 (4)	1.03 (4)	1.00 (3)	0.81 (1)	0.85 (3)	1.07 (4)	1.11 (4)
Government grants & subsidies to total revenue (%)	15,32 (3)	15,34 (3)	26,75 (2)	23.60 (2)	36.03 (1)	30.01 (2)	17.74 (3)	18.38 (3)
Employee related costs	31,78 (2)	31,54 (2)	27,38 (3)	25.12 (3)	22.45 (4)	26.00 (3)	24.17 (4)	24.06 (4)
Irregular, fruitless, and wasteful expenditure	1,65 (5)	1,23 (5)	14,78 (4)	38.63 (1)	14.96 (4)	12.90 (5)	0.4 (5)	0.5 (5)
Score out of 30	20	20	17	15	12	17	24	25
Sub-Index 2: Liquidity ratios								
Current ratio	1.47 (3)	1.64 (4)	1.12 (3)	0.95 (2)	0.59 (1)	1.00 (2)	1.09 (3)	3.23 (5)
Quick ratio (acid test ratio)	1.44 (3)	1.60 (4)	0.87 (2)	0.76 (1)	0.59 (1)	1.00 (2)	1.04 (3)	3.10 (5)
Score out of 10	6	8	5	3	2	4	6	10
Sub-Index 3: Solvency ratios								
Debt-to-worth ratio	0.30 (4)	0.29 (5)	0.36 (4)	0.42 (4)	0.71 (3)	0.86 (3)	1.00 (2)	0.19 (5)
Total debt to total assets	0.30 (4)	0.29 (5)	0.27 (5)	0.29 (5)	0.42 (4)	0.46 (4)	1.00 (2)	0.16 (5)
Score out of 10	8	10	9	9	7	7	4	10
Sub-Index 4 : Capital investment								
Gross Fixed Capital Formation as % of GDP	13,87%	13,76%	15,35%	15,79%	20,19%	19.92%	13,47%	16.55%
Score out of 5	1	1	1	1	3	2	1	1
Total Score 55 (classification in brackets)	35/55=64% (3)	40/55=73% (3)	32/55=58% (2)	28/55=51% (2)	24/55=44% (2)	30/55=55% (2)	35/55=64% (5)	46/55=84% (5)
Overall Trend	Improved significantly		Deteriorated significantly		Improved significantly		Improved significantly	

MFHI: CONCLUSIONS

Future research may focus on further developing this index by allocating different weights to indicators and doing more comparative analysis, as well as adding or refining indicators.

It is an **ongoing process of improvement** of the usefulness of the index to identify factors and key risk areas which may influence the position of financial health in local government.

The **significance of this index** is that it is a comprehensive measurement tool for academics, government officials and policymakers to identify and eliminate risk areas within the financial environment of municipalities in South Africa.



IGIGI



LGIGI

Inclusive growth?

- Inclusive growth refers to both the **pace and distribution** of economic growth (WB, 2013).
- For growth to be **sustainable** and effective in reducing poverty, it needs to be inclusive (Berg and Ostry 2011a).
- Ianchovichina and Gable (2012) describe inclusive growth as raising the pace of growth and enlarging the size of the economy by **providing a level playing field** for investment and increasing productive employment opportunities.

In summary, inclusive growth can be defined as a broad-based economic process including all sectors and all components of society to benefit while ensuring non-discriminatory participation and redistribution of economic opportunities (Meyer, 2018).

Inclusive growth embodies the principle that **wealth creation, economic freedom, and equal opportunity can co-exist**. It promotes the notion that a society can be free and equal while also pursuing long-term economic growth and well-being. (IMF, 2024)



ECONOMIC DEVELOPMENT VS INCLUSIVE GROWTH

Economic Development: the process by which a country or region improves the economic, political, and social well-being of all its citizens. It encompasses economic growth, structural economic changes, improved living standards, poverty reduction, and enhanced infrastructure.

Inclusive Growth: Focuses on economic growth that is distributed fairly across society and creates opportunities for all, especially marginalized groups. IG is narrower in scope but deeper in emphasis on equity, equality of opportunity, and reducing disparities (income, gender, regional, etc.)

While economic development focuses on overall progress and structural change, inclusive growth ensures that this progress benefits everyone, reducing inequality and fostering equity and opportunity. Ideally, economic development should be inclusive, addressing growth and equity together.



WHAT IS AN INDEX AND WHY IS AN INDEX USEFUL

What is an index:

- An **economic-related index**, such as an **Inclusive Growth Index**, is a **composite** measure,
- that **aggregates** various economic indicators into a single value to provide insights into a specific aspect of the economy.
- These indices (indexes) are often designed to **measure complex, multi-dimensional phenomena** like economic development, social progress, or sustainability that cannot be captured by a single variable.

Why Use an Index in Economic Analysis?

1. Simplification of Complexity:
2. Comparability:
3. Multi-dimensional Insights:
4. Policy Guidance:
5. Benchmarking and Goal Setting:
6. Public Awareness:

Economic Indicators



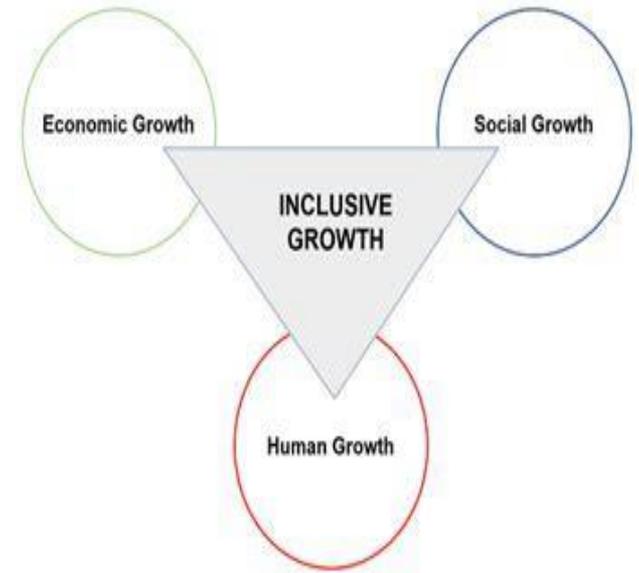
INTRO AND PROBLEM STATEMENT

- Inclusive growth is a concept that extends beyond economic growth, emphasising equitable opportunities and access to the benefits of growth for all individuals in society.
- An **Inclusive Growth Index** is a critical tool to quantify and assess how well a region, such as a municipality, achieves this balance.
- Municipalities play a pivotal role in promoting inclusive growth because they are the closest level of government to citizens and directly influence service delivery, local economic development, and social equity.
- An Inclusive Growth Index tailored to the municipal level can provide localised insights into areas of strength and challenges, offering evidence-based guidance for resource allocation, policy formulation, and developmental interventions.



INTRO AND PROBLEM STATEMENT

- Measuring inclusive growth at the municipal level poses significant challenges due to the complexity and multidimensionality of the concept.
- Data sets are more easily available than at the municipal level.
- Moreover, data availability and quality disparities across municipalities hinder comparability, limiting policymakers' ability to implement targeted and effective interventions.
- Developing a robust and context-sensitive Inclusive Growth Index is crucial to bridge this gap, providing municipalities with actionable insights to drive equitable and sustainable development.



National indexes:

- Inclusive growth index, Asia Development Bank.
- Mapping Inclusive Growth index, developed by the International Policy Centre for Inclusive Growth.
- Inclusive Growth Measurement and Determinants” was developed by the International Monetary Fund.
- Inclusive Development Index (IDI)”, developed by the World Economic Forum (WEF),



METHODOLOGY

- **Step 1: Literature Review and Definition Refinement:**

Conduct an extensive review of academic literature, policy reports, and existing frameworks on inclusive growth to understand its multidimensional nature. Examine various definitions and methodologies to identify gaps and opportunities for a more comprehensive index design applicable at multiple governance levels (national, provincial, and local).

- **Step 2: Variable Selection and Relevance Testing:**

Analyze existing indexes and frameworks to identify key variables that align with the principles of inclusive growth. Select variables based on their relevance, representativeness, and potential for cross-scale application. Ensure the chosen variables address economic, social, and quality of life dimensions.

- **Step 3: Data Availability and Feasibility Check:**

Verify the availability of time-series data for the identified variables at the municipal level. Prioritise variables with reliable, consistent, and comparable data sources. This step ensures the index can be updated periodically and used for comparative trend analysis.



METHODOLOGY

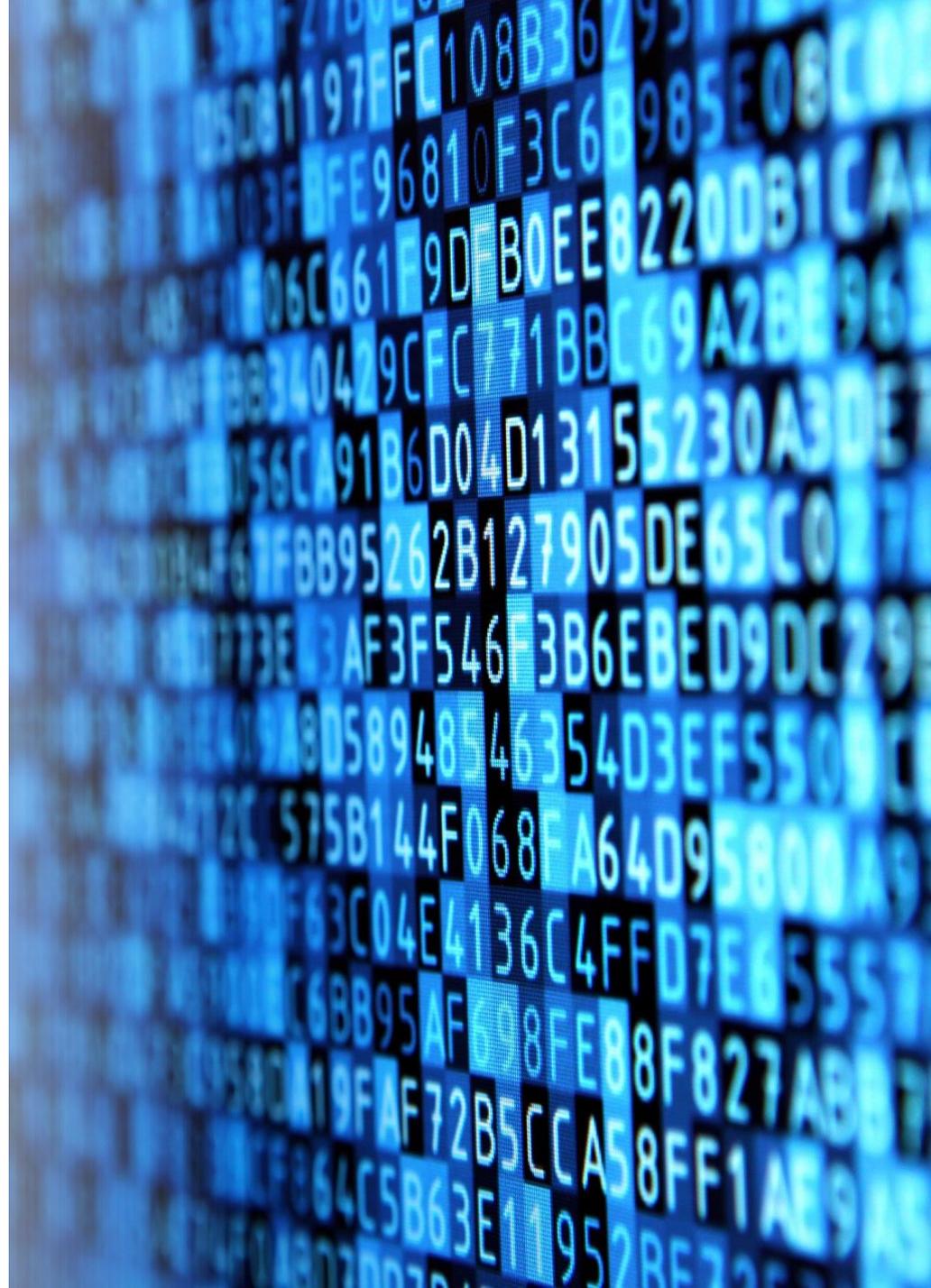
- **Step 4: “Indexification” of Variables:**

Transform each variable into a standardized sub-index, normalizing values to a common scale of 0 to 100. This standardization ensures comparability across indicators, enabling their aggregation into composite scores while maintaining interpretability.

- **Step 5: Data Collection and Index Compilation:**

Collect data for all municipalities in South Africa, ensuring accuracy and consistency. Compute the sub-indexes for each variable and aggregate them to derive the overall Inclusive Growth Index score for each municipality. Conduct sensitivity analyses to validate the robustness of the methodology and results.

- **This systematic approach ensures that the Inclusive Growth Index is data-driven, scalable, and capable of providing actionable insights for stakeholders at all levels of governance.**



VARIABLES INCLUDED IN LGIGI

Indicator	Description	Year Available
DEPENDANTS (Sub index 1: Status Quo)	The Total Dependency Ratio is the ratio of the dependent age (child and aged) population as a percentage of the working age population = $([A00: \text{Child population (Number)}] + [A65: \text{Aged population (Number)}]) / [A15: \text{Working age population (Number)}] * 100$. The indicator is inverted. 100 minus the original value, this ensures all variables move in the same positive direction. A higher value means fewer dependants per working person.	1993-2023
POVERTY (Sub index 1: Status Quo)	Percentage of the population that is above the lower bound South African food poverty line. A higher value is positive, lower number of people in poverty.	1993-2023
GINI (INEQUALITY) (Sub index 1: Status Quo)	GINI Coefficient standardised to 100. The indicator ranges between 0 and 100 and is inverted, 100 minus the original value. A higher value indicates a positive equality value.	1993-2023
GVA Per Capita (Sub index 2: Participation)	Gross Value Add (GVA) per capita rescaled 100.	1993-2023
EMPLOYMENT (Sub index 2: Participation)	The number of people who are employed or economically active as percentage of the total population of the working age group	1993-2023
INFRASTRUCTURE (Sub index 3: Potential)	Percentage of the house holds with access to infrastructure (Electricity, Water and Sanitation) standardised to 100.	1993-2023
LITERACY (EDU) (Sub index 3: Potential)	The number of people who are 20 years and older and possess a matric certificate or higher as their highest qualification as a percentage of the total population of the same age group.	1993-2023
HEALTH (Sub index 3: Potential)	Expenditure on health of a region as a percentage of the total expenditure on health of the province	2005-2023

CLASSIFICATION

Index score	Index Classification
0 to 10	Extremely Low levels of Inclusive Growth (critical low)
11 to 20	Very Low levels of Inclusive Growth (fragile)
21 to 30	Low levels of Inclusive Growth (struggling)
31 to 40	Marginal levels of Inclusive Growth (emerging)
41 to 50	Moderate levels of Inclusive Growth (developing)
51 to 60	Fair (average) levels of Inclusive Growth (progressive)
61 to 70	Above-average levels of Inclusive Growth (promising)
71 to 80	Good levels of Inclusive Growth (strong)
81 to 90	High levels of Inclusive Growth (advanced)
91 to 100	Exceptional levels of Inclusive Growth (Leading)





RESULTS



Results & Insights

At a provincial level, Gauteng, with an LGIGI score of 56,34, is the top leading province, and KwaZulu Natal is a bottom province with a score of 42,21 in 2023, highlighting critical developmental challenges and disparities between the top leading and bottom provinces. It is, however, worth noting that over the period of the study, KwaZulu Natal and Eastern Cape had the highest percentage growth change in terms of LGIGI between 1993 and 2023 despite having the lowest scores in 2023. The percentage growth change for LGIGI scores at a provincial level is summarised in table 3 below.

Table 3: LGIGI Score Provinces (2013 – 2023)

Province	1993	2023	% Change
Eastern Cape	27,57	41,29	49,74%
Free State	36,59	49,76	35,98%
Gauteng	51,91	56,34	8,53%
KwaZulu Natal	27,82	42,21	51,73%
Limpopo	33,70	45,25	34,27%
Mpumalanga	40,89	49,99	22,27%
Northern Cape	41,23	50,03	21,36%
North West	36,38	46,61	28,14%
Western Cape	46,64	52,59	12,74%



Results & Insights

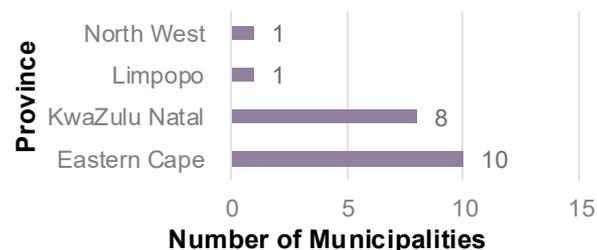
The best-performing local municipality in terms of LGIGI score was Thabazimbi, with a score of 70,50, while the worst-performing local municipality is Ntabankulu in the Eastern Cape (Table 4). The best-performing metro in 2023 was City of Johannesburg, with an index of 59.76 while the worst-performing metro was Buffalo City, with an LGIGI score of 47,80. The table below provides a summary of the top and bottom 10 local municipalities in terms of LGIGI score, while the graphs illustrate the best and worst 20 municipalities based on respect to their province.

Table 4: Best – performing and worst-performing Municipalities (2013 – 2023)

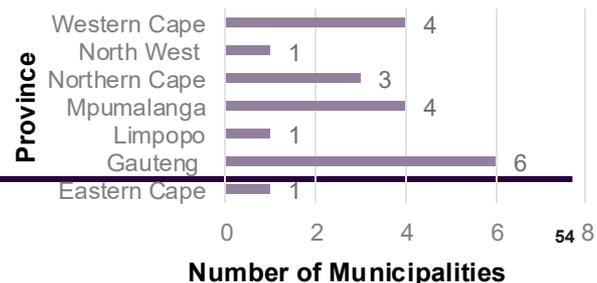
10 Best-performing Municipalities in 2023			10 Worst-performing Municipalities in 2023		
Local Municipality	Main/Major Town	LGIGI score	Local Municipality	Main/Major Town	LGIGI score
Thabazimbi	Thabazimbi	70,50	Ntabankulu	Ntabankulu	31,771
Gamagara	Kathu	69,44	Ingquza Hill	Flagstaff	32,190
Witzenberg	Ceres	61,27	Port St Johns	Port St Johns	33,188
Khai-Ma	Pofadder	60,57	Mbhashe	Dutywa (Idutywa)	33,241
Rustenburg	Rustenburg	60,49	Msinga	Tugela Ferry	33,489
City of Johannesburg	Johannesburg	59,76	Ratlou	Setlagole	33,554
Steve Tshwete	Middelburg	59,22	Mbizana	Mbizana	34,132
Merafong City	Carletonville	59,05	Engcobo	Engcobo	34,379
Langeberg	Ashton	58,63	Intsika Yethu	Cofimvaba	34,930
Stellenbosch	Stellenbosch	57,73	Nquthu	Nquthu	35,058

It is worth noting that the top 2 local municipalities with the highest LGIGI score are associated with mining as the area's key driving industry.

20 Worst-performing Local Municipalities based on LGIGI Score 2023

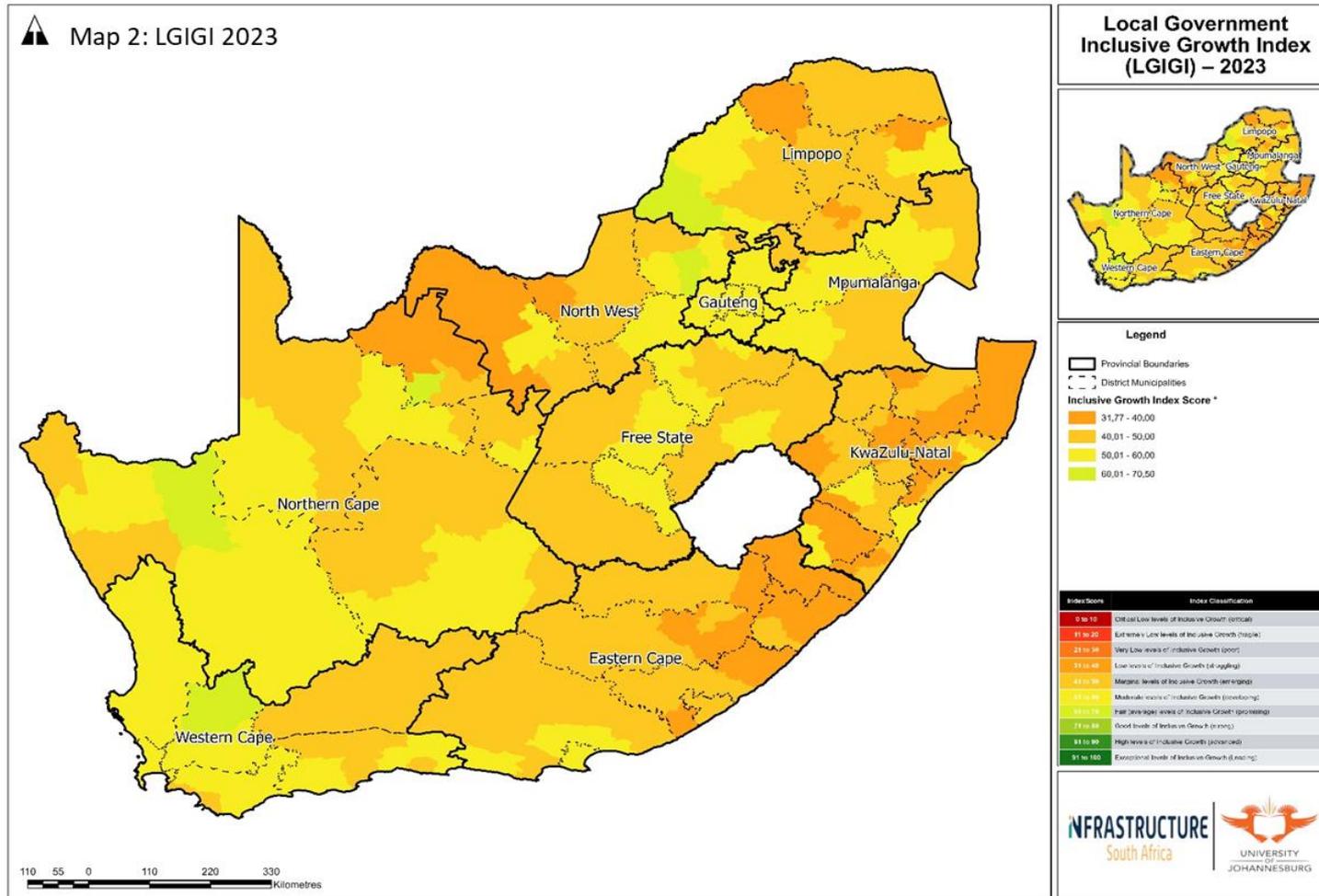


20 Best-performing Local Municipalities based on LGIGI Score 2023



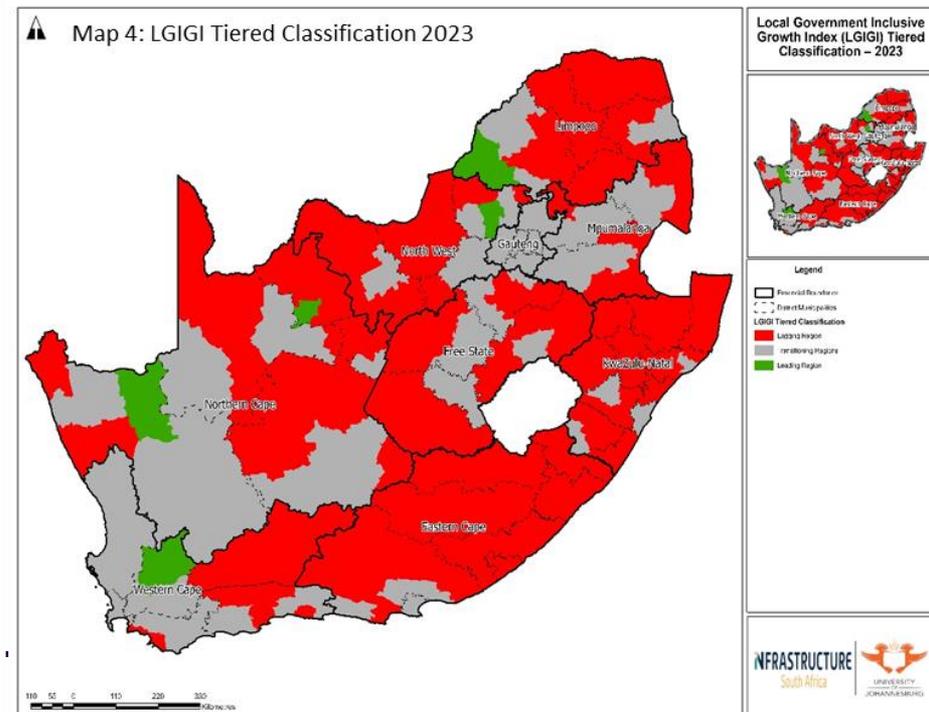
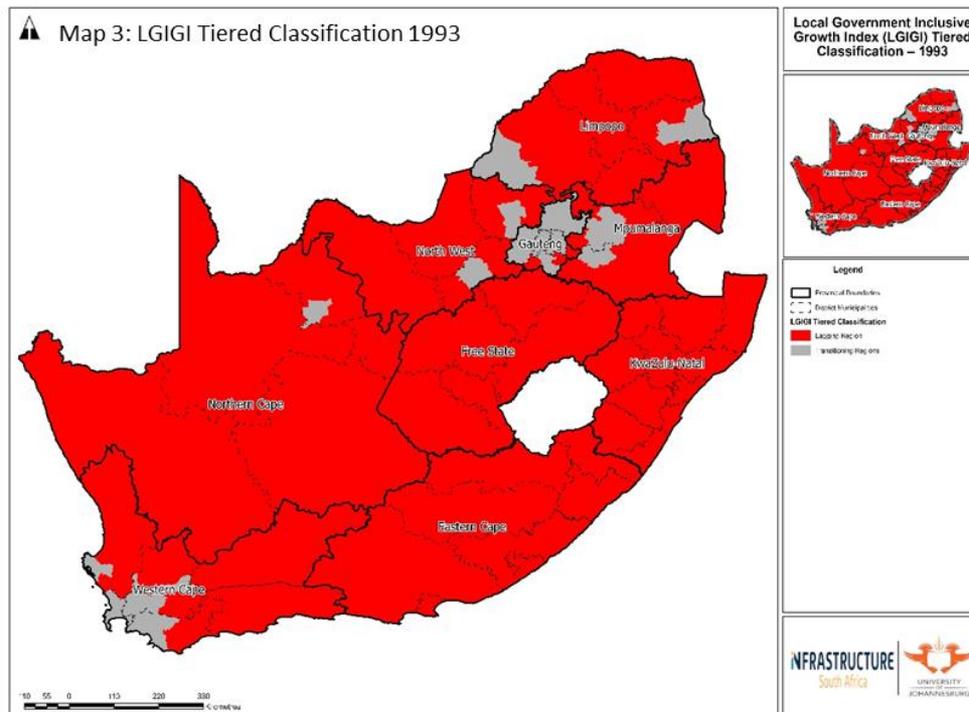
Results & Insights

Over the past 30 years, the country's national inclusive growth index has slightly improved from 35,80 (Low levels of Inclusive Growth (struggling)) to 46,82 Marginal levels of Inclusive Growth (emerging). Map 2 below illustrates the LGIGI score 2023.



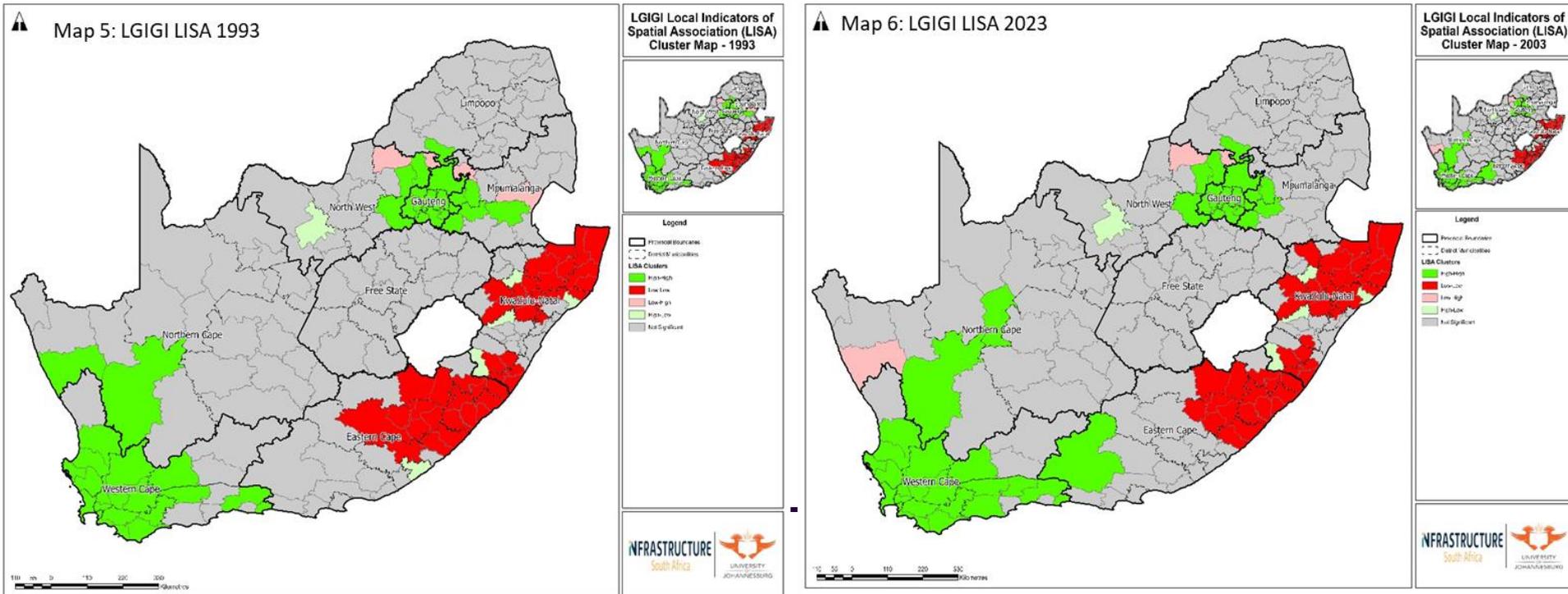
Results & Insights

The tiered classification map (Map 3) shows that in 1993, 191 municipalities (90%) were below the appropriate threshold, with no local municipality classified as a leading region. By 2023, the number of lagging regions decreased to 142 municipalities (67%), while the transitional regions increased from 22 municipalities (10%) to 66 municipalities (31%). Leading regions grew from 0 to 5 (Map 4). Notably, the Eastern Cape, KwaZulu-Natal, Mpumalanga and Free State did not have any leading regions within their boundaries. Additionally, the Overstrand Local Municipality in the Western Cape regressed from being a transitional region in 1993 to a lagging region in 2023.



Results & Insights

The spatial autocorrelation analysis revealed the presence of a spatial pattern consisting of four key clusters. Two clusters with High-High LGIGI scores are located in the Gauteng and Western Cape regions, while two clusters with Low-Low LGIGI scores are found in the Eastern Cape and KwaZulu-Natal regions. During the study period, the Gauteng cluster contracted as municipalities in Mpumalanga linked to the cluster regressed during the period. In contrast, the clusters in the Eastern Cape, Western Cape, and KwaZulu-Natal remained relatively unchanged. The top leading municipality can be considered an outlier, as it is not located within any of the identified clusters. Maps 5 and 6 below illustrates the clusters from 1993 and 2023.





General Conclusion

- Research focus aims to contribute to the body of knowledge in the field of Development Economics.
- Measurement tools formulated to be user-friendly and practical.
- Tools could be used anywhere in the world and in both developed and developing countries and regions.
- Tools useful in economic progress analysis, comparative analysis, strategy development, training of people in development economics processes,.
- Promotion of the concepts of regional and local economic development.
- Future research: refinement of existing tools and development of more tools such as resilience index, competitiveness index.

D

thank
you

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