



Harnessing Geospatial Innovation to support a flourishing foodscape in South Africa's Traditional Areas

GEO4SDGS: RELEVANCE TO THE DIGITAL AGE

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agriculture, land reform
& rural development

Department:
Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

“Poverty is not an accident.
Like slavery and apartheid, it is
man-made and can be removed
by the actions of human beings.”

– **Nelson Mandela**



Deprivation by Design

1. Colonial legacy and apartheid policies:

- Historical land dispossession and forced removals
- Racial segregation and discrimination
- Systematic exclusion of non-white populations from resources

2. Disruption of traditional communities and livelihoods:

- Loss of ancestral lands and cultural heritage
- Displacement of rural populations and fragmentation of communities (13% of population into 8% land)

3. Socio-economic disparities between urban and rural areas:

- Widening gaps in wealth, education, and opportunities
- Legacy of historical disparities in resource allocation

4. Limited infrastructure and resources in rural areas:

- Insufficient access to water, electricity, and sanitation facilities
- Limited economic opportunities and job prospects for rural populations

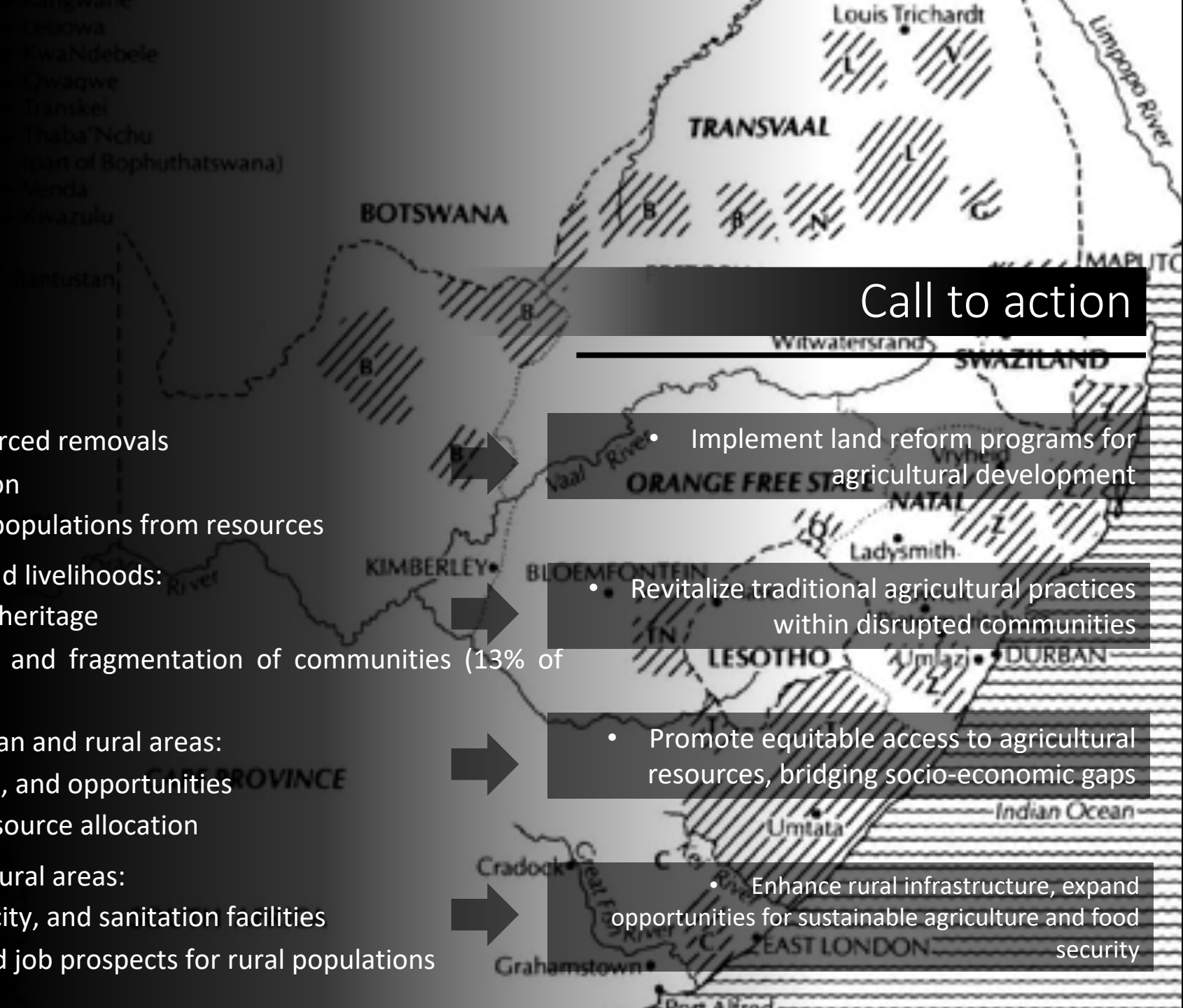
Call to action

- Implement land reform programs for agricultural development

- Revitalize traditional agricultural practices within disrupted communities

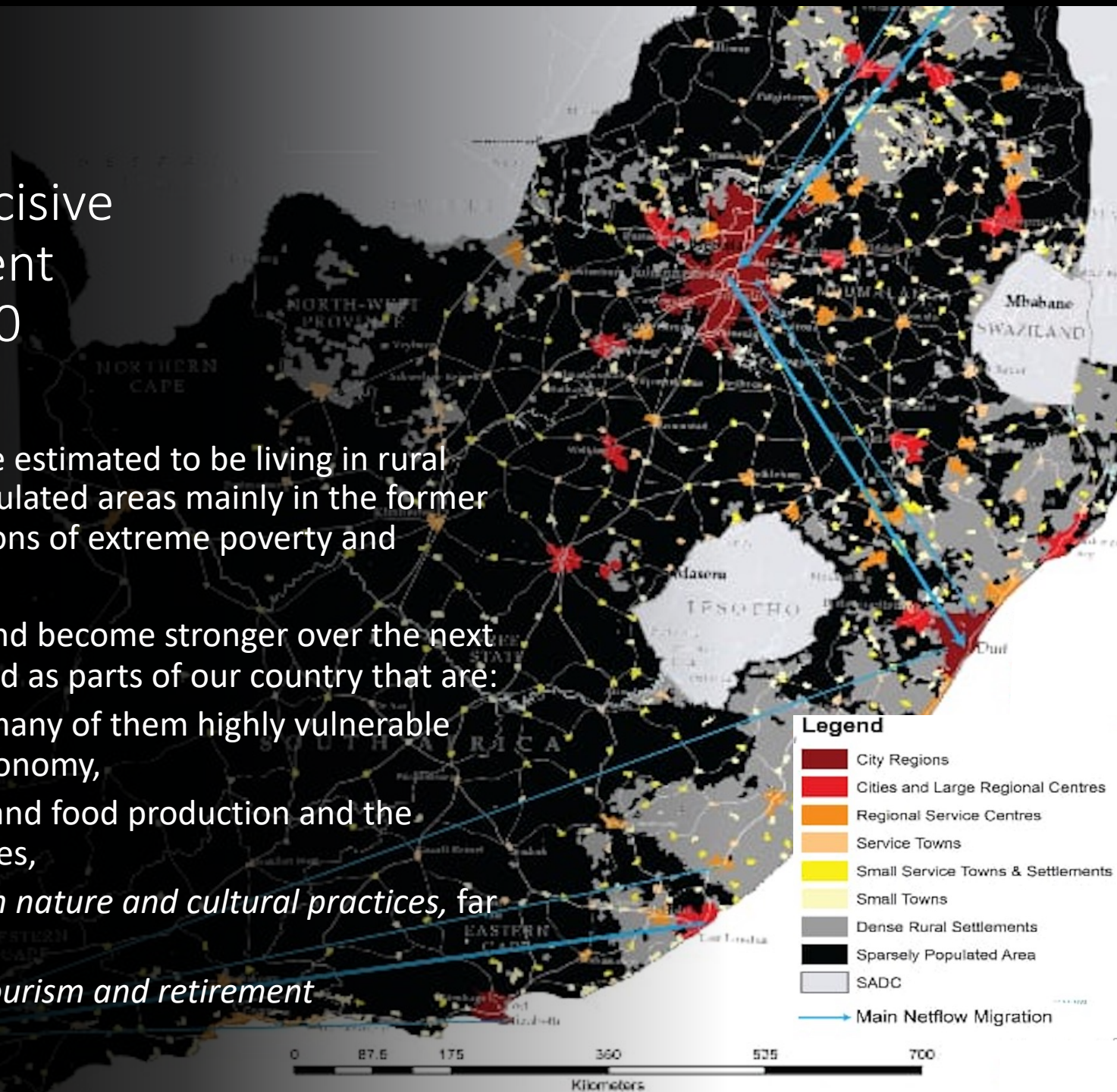
- Promote equitable access to agricultural resources, bridging socio-economic gaps

- Enhance rural infrastructure, expand opportunities for sustainable agriculture and food security



Ruralisation and the Need for Decisive and Sustainable Rural Development and Agrarian Reform – NSDF 2050

- Currently more than 17 million of our people are estimated to be living in rural settlements across both dense and sparsely populated areas mainly in the former Bantustans. Most of these people live in conditions of extreme poverty and vulnerability.
- *‘taking rural areas seriously’* is set to continue and become stronger over the next three decades, as these areas become recognised as parts of our country that are:
 - (1) *Still ‘home’* to millions of South Africans, many of them highly vulnerable and isolated from the broader national economy,
 - (2) of *national significance* for surface water and food production and the provision of key national ecosystem services,
 - (3) *places of retreat, rest and connection with nature and cultural practices*, far away from fast-paced urban lives, and
 - (4) *sought-after domestic and international tourism and retirement destinations.*



SDG “Triple Challenges” of Rural spaces

High poverty rates

- Limited income-generating opportunities
- Dependence on social grants and remittances

Unemployment

- Lack of job opportunities in rural areas
- Skills mismatch and limited access to training

Inequality

- Reducing societal inequality including challenging traditional

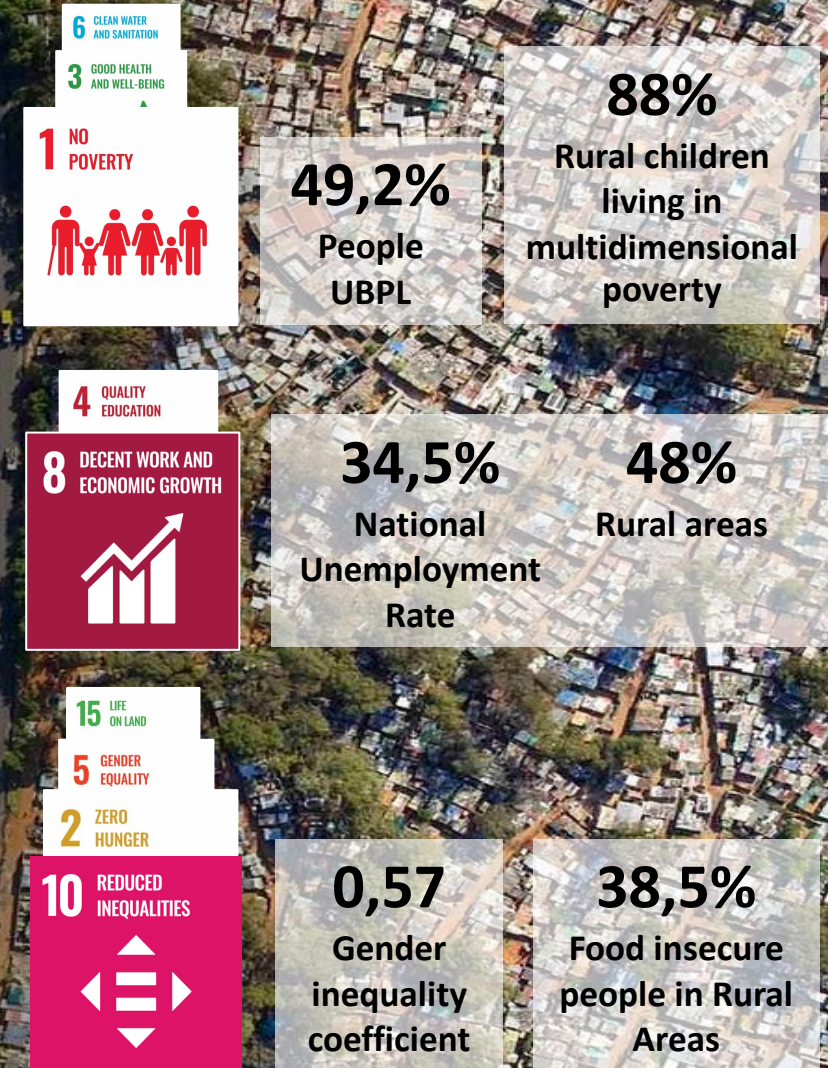
gender roles and cultural norms can foster greater gender equity.

Food insecurity and malnutrition (Hunger)

- Dependence on subsistence agriculture
- Vulnerability to climate change and natural disasters


Limited access to education, healthcare and basic services

- Insufficient infrastructure and resources for quality services
- Long distances to schools and health facilities



Agriculture (Crop and Livestock farming) in Traditional Areas

- A geospatial analysis, utilising several geospatial databases spanning the past decade were used to generate the table depicting “Traditional Land Use and Agricultural Activity in South Africa”
- This data provided the input data for the Economic Modelling of the Agriculture Sector, as it relates to Traditional Areas in South Africa.
- The total agricultural land under Traditional Authorities that is either underutilized or lying fallow is estimated at 4.8 million ha



PROVINCES	Former Homeland Areas	Traditional Authority Land (TA)	Crop Land	Grazing land	Active Agricultural Land
Eastern Cape	4 974 385,17	3,935,472	918,101	1,135,048	2,807,028
Free State	234 724,88	142,133	2,521	19,176	13,717
Gauteng	N/A	8,014	68	4,012	5,436
KwaZulu Natal	3 548 282,95	3,373,731	229,523	1,593,424	2,656,883
Limpopo	3 302 781,42	3,104,041	472,235	1,126,014	1,844,999
Mpumalanga	851 372,10	694,433	19,271	99,619	527,237
North West	2 055 143,07	1,993,646	118,620	300,976	1,325,146
Northern Cape	1 642 540,29	909,908	3,045	632,372	104,954
Western Cape	N/A	N/A	N/A	N/A	N/A
Total	16 609 229,88	14,161,378	1,763,384	4,910,641	9,285,400

Source: Dalrrd, 2023

Economic Analysis of the growth opportunities in Traditional Areas

At a 10% restoration rate:

- 481,380 ha brought into production per annum
- Real GDP expansion of R59 billion creating 500 000 jobs
- Primary agricultural jobs that can be created: 13 767

At a 20% restoration rate:

- 962,761 ha restored per annum
- Real GDP increase of R149 billion above baseline creating 963 761 jobs
- Primary agricultural jobs that can be created: 35 000

The restoration of agricultural land under Traditional Authorities, not only benefits Agriculture but has positive spill over effects for the mining, hospitality, trade, manufacturing, and utilities sectors.

Assumptions:

1. current **productivity gap is 67%**, implying household farmers in tribal land are presently producing about a third of what commercial or established farmers are producing in the same piece of land. This can be attributed to the low practice of soil correction, lack of enabling infrastructure, poor resources, and poor access to production finance, quality seeds or animal breeds.
2. **12% of the land is high-potential agricultural land** with access to water and suitable for high-value crops and vegetables.
3. **Approximately 35% of the agricultural land is semi-arable** and suitable for cultivating grains, sugarcane, cotton, and oilseeds. The remaining available tribal agricultural land is appropriate for livestock farming and mixed-farm operations, where livestock is the primary activity.
4. **Economic Data Model Utilised:** The University of Pretoria General Equilibrium Model (UPGEM) modified for policy simulations to address research questions in South African agriculture

Top Down, Bottom Up Planning Approach

- **Aligning** national strategies with local needs
- Ensuring that national policies and development plans reflect the **unique challenges** faced by rural communities
- Encouraging **collaboration** between different levels of government to address specific local issues
- Capacity building for local implementation:
- Providing **resources**, training, and support for local authorities and communities to effectively implement national plans
- Strengthening local **governance structures** and empowering community members to take ownership of development projects
- Monitoring and evaluation for continuous improvement:
- Establishing **feedback loops** between national planning bodies and local implementers to track progress and identify areas for improvement
- Utilizing **geospatial data and technologies** to monitor the impact of interventions and inform future planning efforts
- Fostering **public-private partnerships** and community engagement:
- Encouraging **collaboration** between government agencies, private sector organizations, and local communities to leverage resources and expertise
- Promoting **inclusive, participatory approaches** to development, ensuring that the voices of marginalized groups are heard and considered in planning and implementation processes

Land Planning Programme with Traditional Areas

- Data-driven decision-making: Leveraging geospatial data for informed agricultural policies and interventions
- Drones for aerial mapping and surveillance: High-resolution imagery for land use planning and resource management

Planning Instruments/ Building Blocks

- Community led planning
- Mapping/ Surveying
- Recordal of informal rights

Outcomes

- Implementation plan
- Investment plan
- Land Use plan integrated into Local Municipality Plans

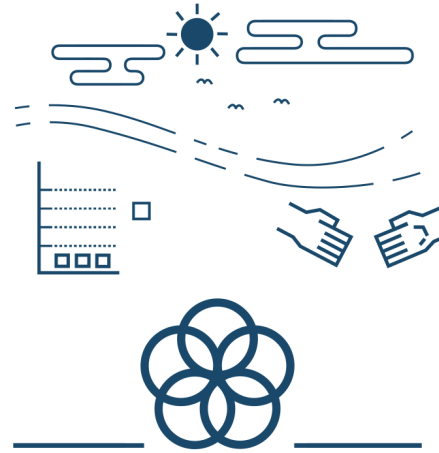


The Future of Foodscapes: A Vision for South Africa

- Scaling up geospatial innovations: Wider adoption of geospatial technologies across rural communities
 - Land use planning and management: GIS-assisted spatial planning for sustainable development in traditional areas
 - Infrastructure development: Identifying suitable locations for schools, clinics, and transportation networks
 - Climate change adaptation: Mapping vulnerability and designing climate-resilient interventions
 - Disaster risk reduction: Monitoring and predicting natural hazards, such as floods and droughts
- Fostering inclusive, sustainable development: Ensuring that no one is left behind in South Africa's growth trajectory
- Strengthening regional and global partnerships: Collaborating with neighbouring

Siyabonga!

17 PARTNERSHIPS FOR THE GOALS



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