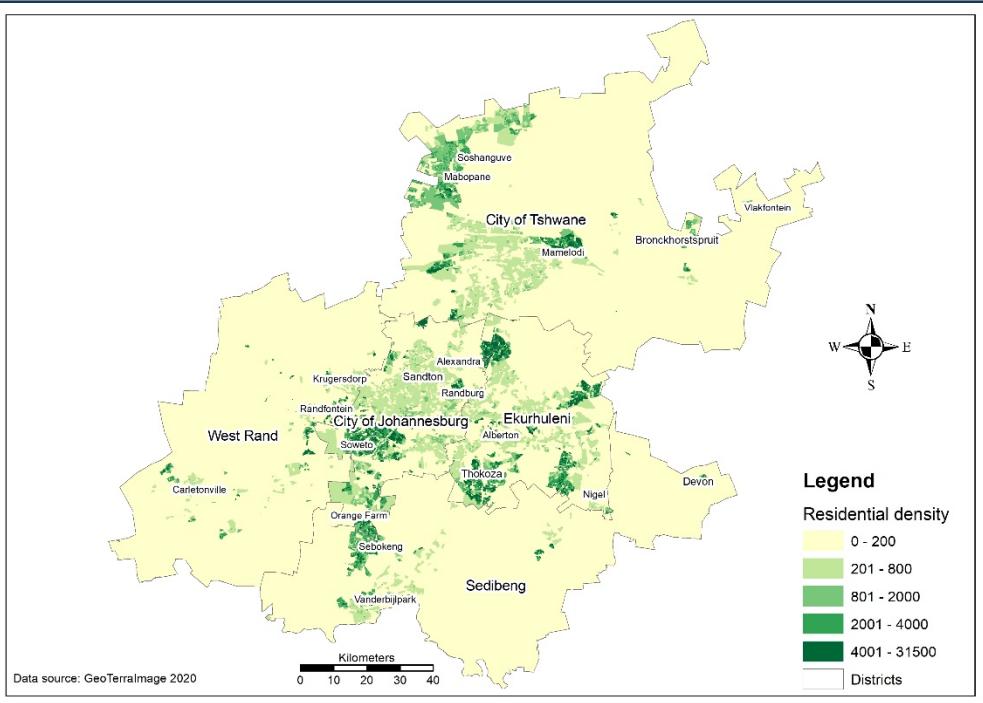


The Gauteng Socio-economic Risk Index

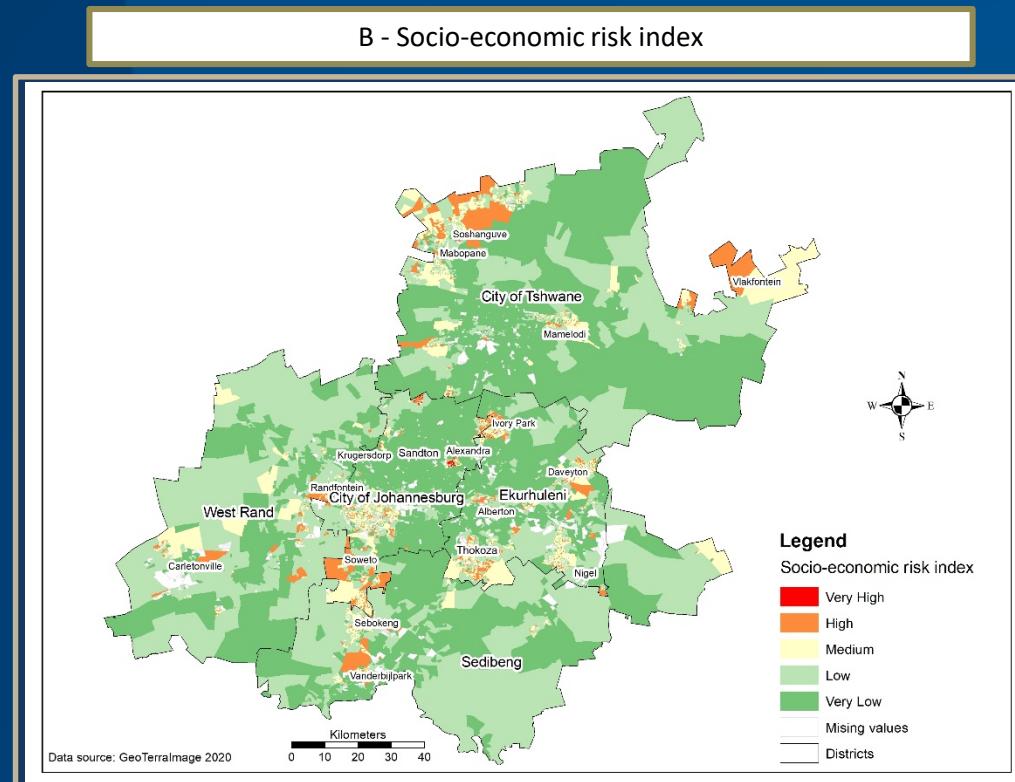
This edition of Spatial Insights is about the socio-economic risk index (SERI) for Gauteng. This index measures socio-economic status that mark environmental, household, and individual preconditions that determine the quality of life of an individual ([read more](#)). Various indicators such as dwelling characteristics, education, employment, income, mobility, and social characteristics can be used in measuring the SERI for an area ([read more](#)). In addition, the SERI can be used as a measure of inequality and the health status of a population.

GeoTerralImage (GTI) periodically calculates the SERI for South Africa. The maps in this edition are based on the 2020 data and the SERI values range from *Very low* to *Very high*. Data was not available for some of the areas within the province and these missing values are not included in the analysis. In Gauteng, areas of high population density seem to be associated with high levels of socio-economic risk. Map A below illustrates the residential density for Gauteng. Residential density is high particularly in townships such as Soweto, Thokoza, Soshanguve and Orange Farm. These townships are relatively more economically deprived than the lower-density suburbs in the province ([read more](#)). Incidentally, these townships also have a high to a very high SERI value, as indicated in Map B. The effects of Covid-19 during 2019-2020 led to job losses and a further reduction in the quality of life in areas of high socio-economic risk ([read more](#)).

A - Residential density



B - Socio-economic risk index



Measures of the quality of life in Gauteng

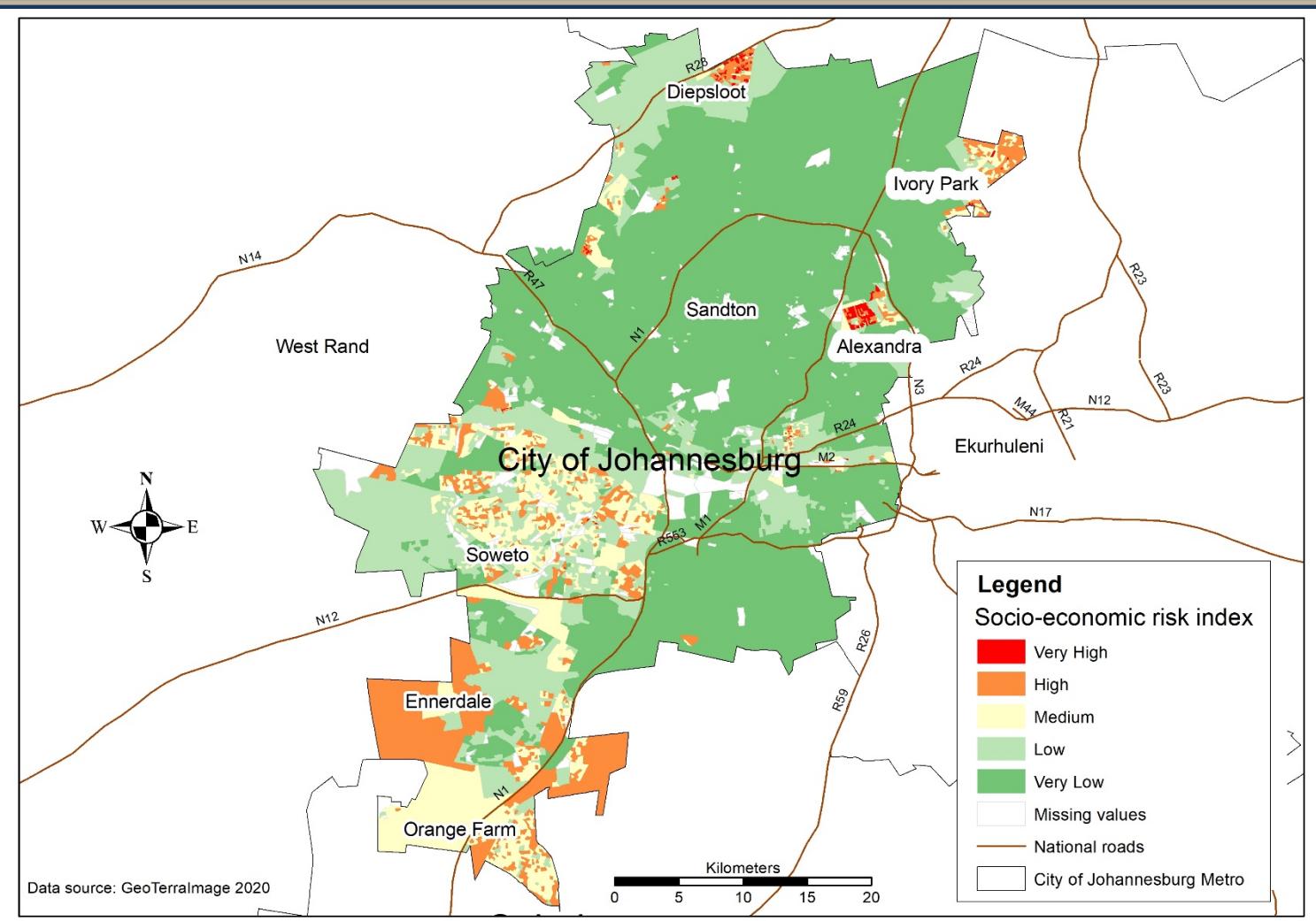
The socio-economic risk index can be linked to the quality of life of an individual ([read more](#)). For example, the Gauteng City-Region Observatory (GCRO) applies indicators that have been used in extant literature to measure the quality of life of Gauteng residents in their biennial quality of life surveys. In its 2020/21 survey, the GCRO used seven dimensions that feed into the overall Quality of Life Index, namely services, socio-economic status, government satisfaction, life satisfaction, health, safety, and participation ([read more](#)). The GCRO results indicate that Midvaal in the Sedibeng district municipality has the highest quality of life index. The municipalities with the lowest indices are Emfuleni in the same municipality and those in the West Rand district municipality ([read more](#)). The HSRC has also in the past decade carried out cross-sectional quality of life surveys such as the South African Quality of Life Trends Study (SAQoL) and the nationally representative South Africa Social Attitudes Survey (SASAS) that comprises quality of life measures such as the Personal Wellbeing Index ([read more](#)).

Additionally, the Socio-economic Review and Outlook (SERO) (2020) report illustrates the overall levels of inequality in Gauteng. The report showed that the share of people living below the Upper Bound Poverty Line (UBPL) during 2020/2021 was lowest in the City of Tshwane at 46,7%, followed by the City of Johannesburg at 51,0%, then Ekurhuleni and the West Rand at 52,7% each. Sedibeng had the highest level of poverty and inequality at 56,4%. Therefore, even though the quality of life may be high in a region, the same region can have high levels of inequality or poverty, as indicated by the case of Sedibeng ([read more](#)).

Furthermore, quality of life can be linked to vulnerability indices, such as social and economic vulnerability. Social inequalities are the factors that affect the susceptibility and coping mechanisms of communities and households. Indicators for social vulnerability attempt to consider the sensitivity, response, and recovery from the impacts of natural hazards. Economic vulnerability describes the potential risks posed by hazards on economic assets and processes. Potential hazards can include job losses, increased poverty, and interruptions in business activities. The CSIR Green Book developed a socio-economic vulnerability index (SEVI) for municipalities that is measured on a scale from 1 (low vulnerability) to 10 (high vulnerability). The SEVI for Gauteng (2020) ranked the West Rand and Sedibeng as having the highest number of settlements at high vulnerability, followed by Sedibeng, then Ekurhuleni. The cities of Johannesburg and Tshwane had the lowest number of settlements with high vulnerability indices ([read more](#)).

The subsequent maps show the Socio-economic Risk Index (SERI) for each of the metro and district municipalities in Gauteng.

City of Johannesburg SERI

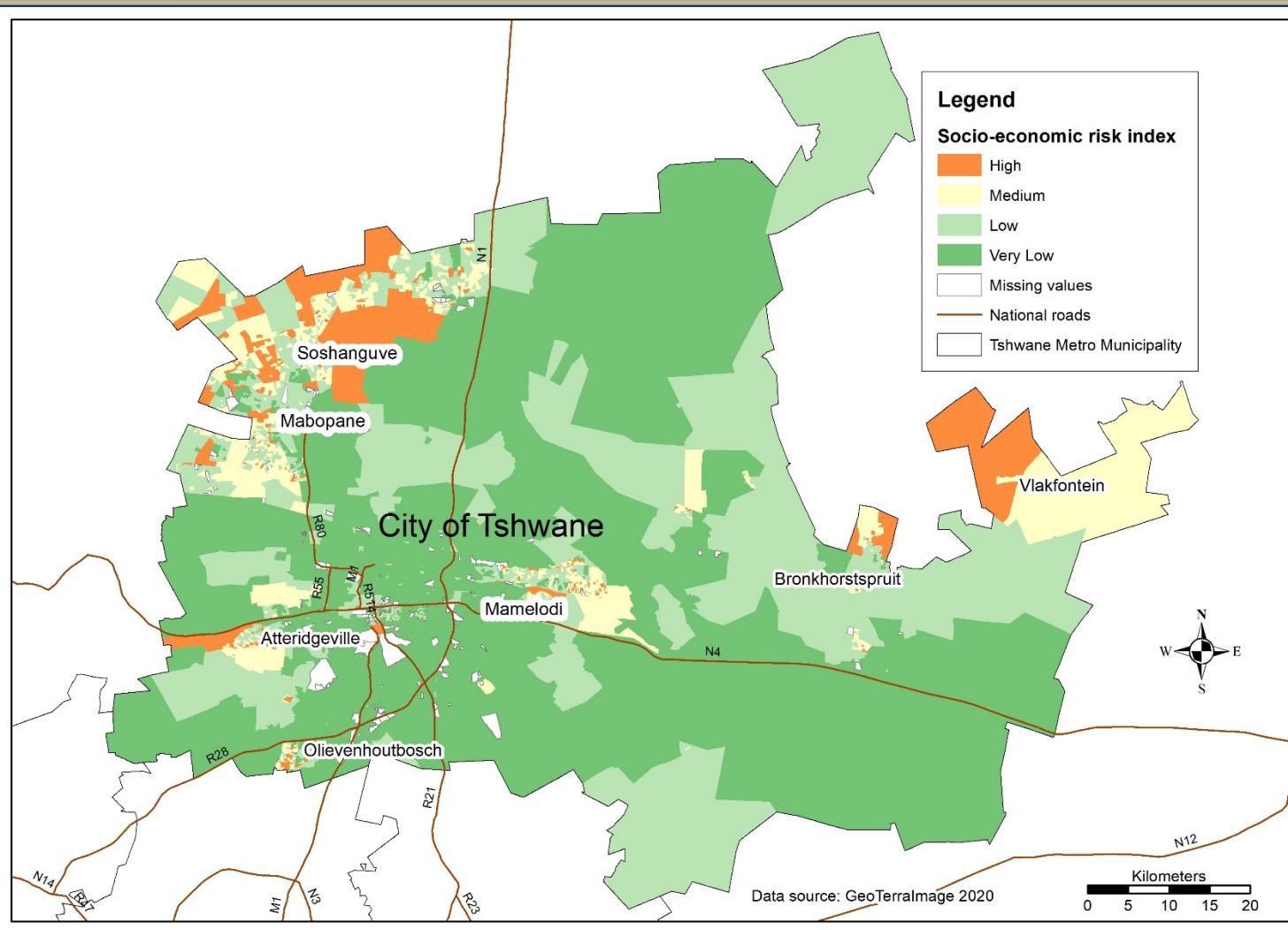


In the City of Johannesburg (CoJ), high-density, mainly economically deprived residential suburbs of Soweto, Ennerdale, Orange Farm, Alexandra, Ivory Park and Diepsloot, among others, fall within the high to very high SERI class. Informal settlements within these areas are likely to fall within the very high-risk category, as they are the most socio-economically deprived ([read more](#)).

Inversely, low-density and relatively well-off suburbs to the north of the city, including Sandton, fall within the low to very low SERI ranking.

The variations in the SERI within CoJ are reflective of socio-economic inequalities, as is also highlighted in the 2020 Socio-economic Review and Outlook report for the province ([read more](#)).

City of Tshwane SERI

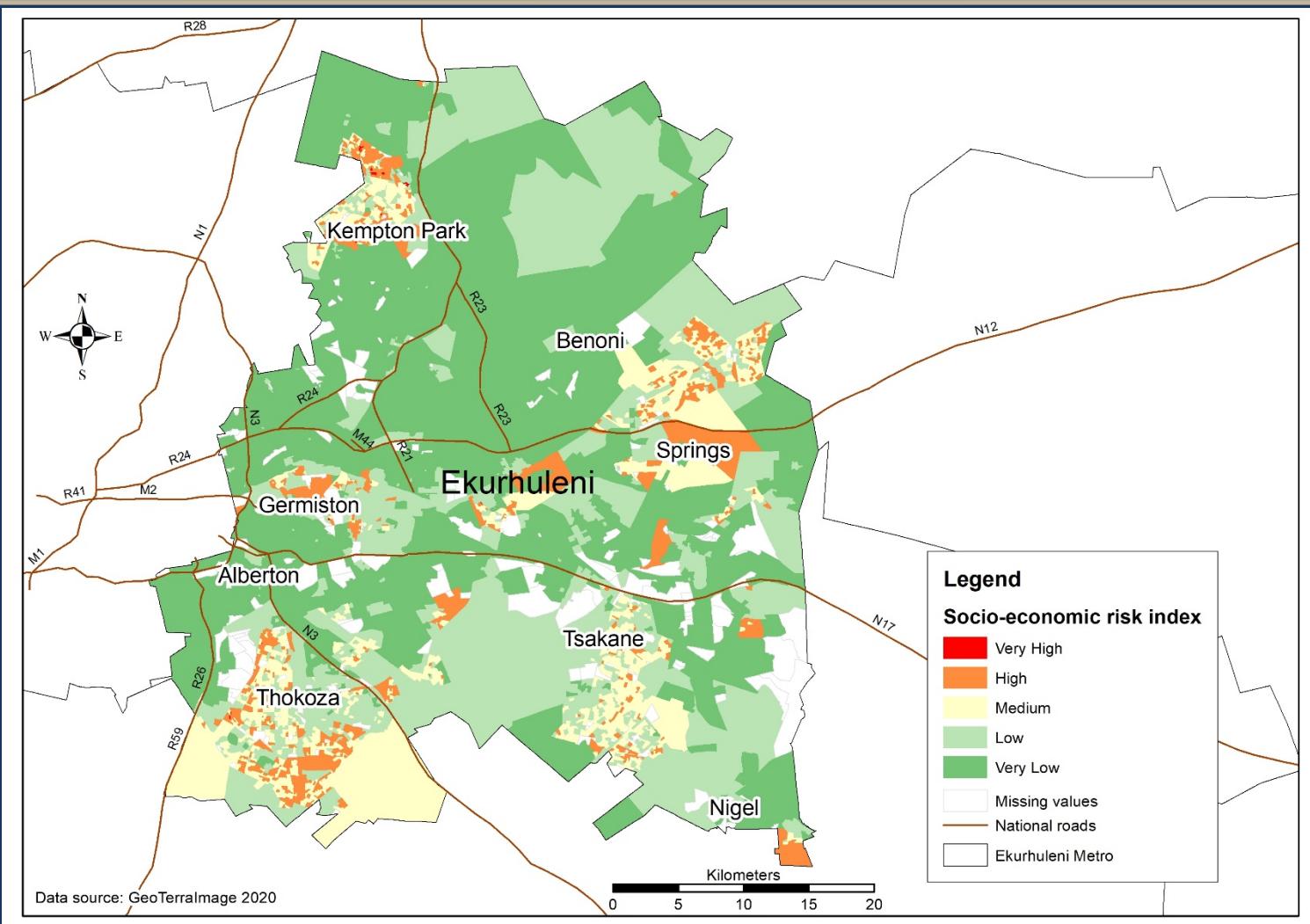


In the City of Tshwane (CoT), the high-density residential suburbs of Mapobane, Atteridgeville, Olievenhoutbosch, Mamelodi, Vlakfontein and Bronkhorstspruit, among others, fall within the high SERI group. As in the CoJ, the number of informal settlements on the fringes of the metro has increased in the past decade and is likely to lead to increased levels of the SERI ([read more](#)).

The rest of the metropolitan municipality falls within the low to very low-risk categories, indicating a relatively higher quality of life and reduced vulnerability levels in these areas. These areas also have low population densities or very few households in comparison to the high-risk areas ([read more](#)).

Together with Sedibeng, CoT is one of the districts with no areas in the very high SERI category.

Ekurhuleni SERI

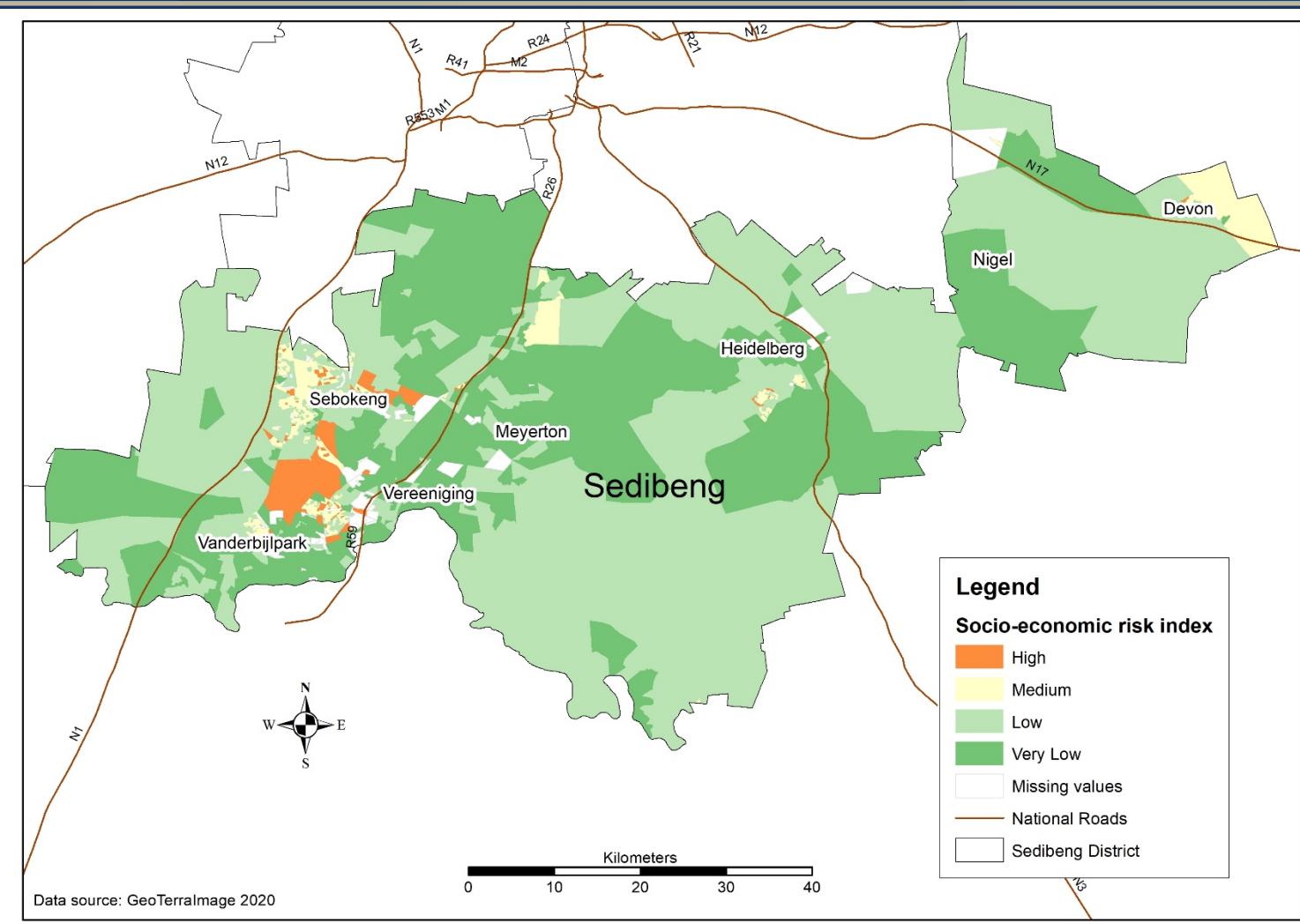


Ekurhuleni is home to the major transport and manufacturing hubs in the province. The economy of the municipality declined significantly during 2019-2020 as a result of Covid-19 restrictions ([read more](#)).

High-density residential areas such as Thokoza, Tsakane, and Kempton Park, among others, from where a large part of the labour force is drawn, show high to very high levels of the SERI.

The metro, however, is dominated by large sections that fall within the medium, low, and very low SERI class, where population densities are relatively low ([read more](#)).

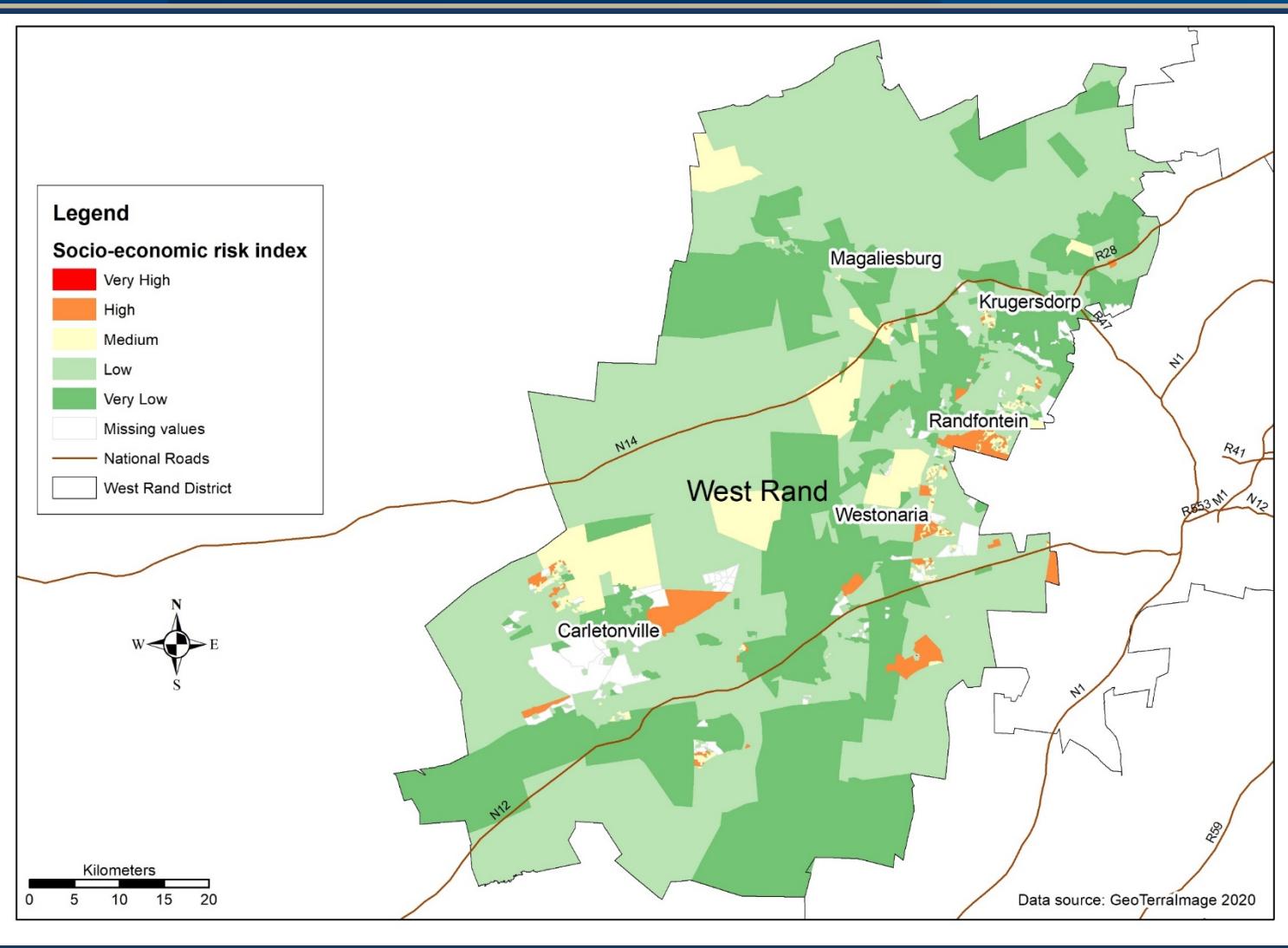
Sedibeng SERI



The 2020 SERO report indicates that since 2015, Sedibeng's economic growth has fallen below the national and provincial growth averages. This is because of factors such as the closure of some key manufacturing (steel companies in particular) firms as well as poor investment in infrastructure, which is required to boost economic activity. The impact of the COVID-19 pandemic further depressed the growth output of the district ([read more](#)).

Resultantly, high-density residential areas and informal settlements in Sebokeng, Vereeniging and Vanderbijlpark, among others, from which the majority of labour is drawn, have a high SERI classification as employment levels in steel and manufacturing have decreased in the district ([read more](#)).

West Rand SERI



The economy of the West Rand district has traditionally been dominated by mining. However, economic growth in the district has been volatile in the past decade, mainly due to a significant decline in mining output. A further negative outcome was the contraction of the district's economy by 8,8% during 2019-2020 as a result of the Covid-19 pandemic ([read more](#)).

The map shows a high SERI in the high-density, labour-supplying areas of Westonaria, Carletonville and Randfontein. Socio-economic deprivation and vulnerability in these areas are most likely due to decreased mining activity in the district. Areas of low SERI classes coincide with large tracts of land dominated by ranching activities where population densities are low ([read more](#)).

The data used in the geographical displays here, originates from GeoTerra Image and it considers the diverse aspects of a society, often termed as the quality of life, by incorporating various different types of variables such as the accessibility to services, housing type and density, Neighbourhood Living Index, environmental factors, etc. that contributes to the overall well-being of a community. The data is useful to indicate areas of potential economic distress and therefore aids in meaningful, geo-targeted interactions to boost local economic development and planning.

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The HSRC must be acknowledged for all published and unpublished works, including the maps used in this series.
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