

PROVINCIAL FACT SHEET

LAND DEGRADATION

Gauteng

Reviewing land degradation

As part of a national review of land degradation, information about soil and veld degradation was gathered at three workshops held in Gauteng during 1997. Based on the insights of agricultural extension officers and conservationists, three consensus maps were produced (see over). These represent the status of soil and veld degradation and an overall measure of land degradation in the province. In terms of this analysis, and when districts having more than 50% settlement were omitted, Gauteng was perceived to be one of the least degraded provinces.

Provincial profile

Gauteng is the smallest but most densely populated and urbanised province. The 1995 census recorded more than 7 million people living in an area of 18 810 km². In most of the districts, population densities exceed 100 people per km². Gauteng was previously part of the Transvaal and incorporates no former homelands or self-governing states.

Mining, industry and commerce dominate the economy of Gauteng, and the province is a major employer of migrant labour. 16,6% of the population of Gauteng lives in poverty, this being the lowest poverty rate of the nine provinces.

The natural vegetation of the northern half of Gauteng is savanna and the southern half is grassland. The whole province has a semi-arid climate.

Land use

50% of Gauteng is settlement area and 8% is used for purposes such as mining. 22% of the province is used to produce crops such as maize, sorghum, sunflowers, beans and deciduous fruit. Only 19% is grazing land for dairy cattle and sheep. There is no commercial forestry and only 1% of land is set aside for conservation.

Land degradation issues

Gauteng suffers a greater range of soil degradation problems than less urbanised provinces, including acidification

and pollution of the soil by chemical wastes from mining and industry. The soil degradation index in mining and settlement areas is highest in Gauteng, but soil degradation rates remained unchanged between 1988 and 1998.

In agricultural areas the soil degradation index for grazing lands is the lowest in the country. In croplands, the soil degradation index is moderate but decreasing.

Gauteng has the lowest provincial index of veld degradation (see over) in the country, reflecting in part the small area of the province used for grazing. The most important veld degradation problem is loss of plant cover. In many districts this is associated with changes in the composition of plant species. Bush encroachment and alien plants are not considered a problem in Gauteng. Only 1,35% of the province is estimated to be invaded by alien plants. Species having a significant negative effect on agricultural production include black wattle, lantana and queen of the night cactus.

Water pollution is a serious problem in Gauteng rivers. Effluents from mining, industry, agriculture and urban areas contaminate rivers with salts, heavy metals and other toxic chemicals, sewage and fertilisers. Acid rain has contaminated wetlands and soil in the vicinity of gold and coal mines. Gauteng is entirely dependent on inter-basin transfer schemes for its water supply.

If all magisterial districts are considered together, none of the top twenty districts requiring priority attention occur in Gauteng.

Combating land degradation

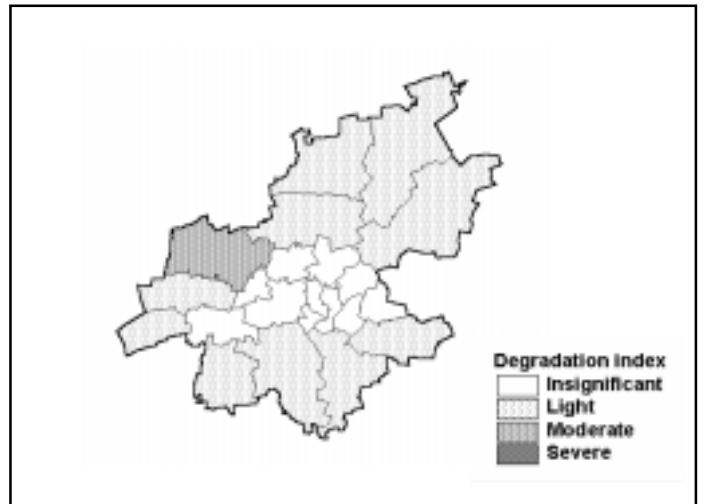
Soil degradation is decreasing in the remaining commercial farming areas of Gauteng. Reasons for this include good agricultural extension services, farmer study groups, government-subsidised soil conservation works and stock reduction schemes, conversion to game farming, and strict application of agricultural legislation. These features of good land management should be taken into account when developing sustainable land use policies and programmes to address land degradation in Gauteng.



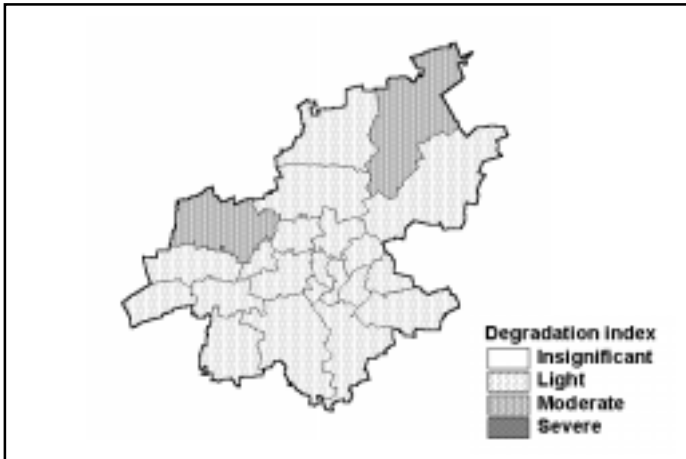
Indices of Land Degradation in Gauteng



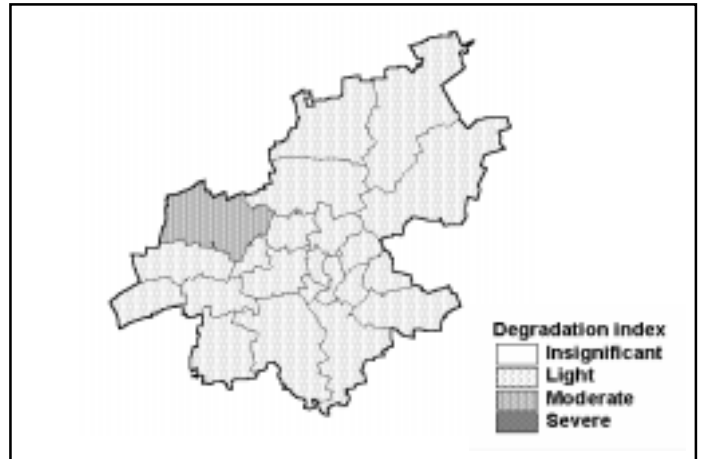
The location of Gauteng, showing the percentage of each magisterial district managed under a communal land tenure system.



The total Veld Degradation Index (VDI) for 22 the magisterial districts of Gauteng:
The VDI incorporates the severity and rate of veld degradation, as well as the % area of veld in the magisterial district.



The total Soil Degradation Index (SDI) for the 22 magisterial districts of Gauteng:
The SDI incorporates the severity and rate of soil degradation for all land use types, adjusted for the % area of each land use type in the magisterial district.



The Combined Degradation Index (CDI) for the 22 magisterial districts of Gauteng:
The CDI is the sum of the total SDI and VDI for each magisterial district.

Where can I get more information?

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Department of Water Affairs & Forestry, Gauteng, Private Bag X8007, Hennopsmeer 0046
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For more information about the national review of land degradation and its products, visit the following web-site:
www.nbi.ac.za/landdeg



National Department of Agriculture



National Botanical Institute



Environmental Monitoring Group



Department of Environmental Affairs & Tourism



Programme for Land & Agrarian Studies



Department of Water Affairs & Forestry