
# LAND IN SOUTH AFRICA:

## A GEOSPATIAL PERSPECTIVE

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A REPORT PREPARED ON REQUEST OF AFRIFORUM

by

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## 1. Introduction

### 1.1 Background

Since the carrying of the motion on land expropriation in Parliament on Tuesday, 27 February 2018, many opinion pieces, perspectives, facts and figures set social media and the press alight. Deep-routed ideological and moral arguments are evoking emotionally-charged responses of all kinds. At the root of any argument, however, should be credible and verifiable facts working towards informed decision-making based on a common understanding of any given issue.

### 1.2 The purpose and limitation of this report

1994 land restitution announcements specifically targeted white-owned farms.[1] The purpose of this report is therefore to unpack the land issue with the emphasis on farmland in South Africa. Although the focus is on farmland, factors contributing to a spatially-differentiated land demand also receive attention.

The aim is to contribute to the factual basis for the current discourses on land, landownership and land restitution. This report will specifically focus on the spatial aspects of land and will highlight factors affecting land and the demand for land in South Africa. The report deals with the following topics:

1. The challenges regarding data and information on land
2. A general overview of land in South Africa, which focuses on –
    a. Land under control of the state;
    b. Agricultural land;
    c. Urban land; and
    d. Factors contributing to a differential demand for land.
3. Is a racially-based perspective on landownership possible?

This report does not claim to be comprehensive in any way. The data and spatial perspectives in this report use only sources that are currently in the public domain. The data sources are thus accessible to anybody who wants to scrutinise or interrogate them. Data resides in a very fragmented way with different government departments, organs of state or parastatals as data custodians in South Africa.[2] The data used in this report all exist in a database with MapAble (Pty) Ltd (www.mapable.co.za). MapAble's system contains about 1 700 national datasets.[3]

### 1.3 The challenges regarding data and the use thereof

Credible data contributes to better decisions. Access to data creates opportunities, but there are pitfalls with data and the use (or abuse) of data. There are ever-increasing challenges to distinguish between data sources, to assess the value of data and to integrate data to inform decision-making at various levels and in different environments. The mere rate at which data and information grow illustrates the difficulties to remain relevant and up to date.

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[1] B. Phakathi. 7 August 2017. *Land reform set to reach 30% black-owned target, study shows*. https://www.businesslive.co.za/bd/national/2017-08-07-land-reform-set-to-reach-30-black-owned-target--study-shows/

[2] The Spatial Data Infrastructure Act, 2003 (Act No 54 of 2004) regulates and prescribes the responsibilities of data custodians in South Africa. The purpose of the Act is, inter alia, to facilitate the sharing of spatial information. In terms of the Act, a "data custodian" means an organ of state or an independent contractor or person engaged in the exercise of a public power or performance of a public function.

[3] MapAble is not a data vendor, but their system makes it possible to access and view data in an integrated environment. Data in the system exist on an "as is" basis. Although MapAble prepares and renders data for use, it doesn't change data or fix obvious data errors. Metadata is maintained and queries regarding data are usually referred to respective data custodians.

Spatial analysis technology also makes measuring and quantification more accurate. For example, a simple question about the size of South Africa has many answers, depending on the data source. The following table provides examples.

*Table 1: The size of South Africa*

| Data source | Size of South Africa (ha) |
|---|---|
| CSIR Built Environment: Mesoframe boundaries | 122 823 953 |
| Statistics South Africa: Census 1996 Provinces | 122 782 933 |
| Statistics South Africa: Census 1996 Place names | 122 801 644 |
| Statistics South Africa: Census 2001 Main Places | 122 812 342 |
| Statistics South Africa: Census 2011: Main Places | 122 832 022 |
| Municipal Demarcation Board: Provincial demarcations 1996 | 122 782 933 |
| Municipal Demarcation Board: Provincial demarcations 2001 | 122 812 452 |
| Municipal Demarcation Board: Provincial Demarcations 2006 | 122 933 311 |
| Municipal Demarcation Board: Provincial Demarcations 2016 | 122 934 149 |
| Department of Rural Development and Land Reform: Land audit 2013 Booklet | 121 973 200 |
| Statistics South Africa: Stats in brief 2017 | 122 933 800 |

These differences bring us to two important considerations. Firstly, in statistical terms, all these datasets vary by less than 0,8%. This is small. Secondly, however, the actual size of area difference is significant.. The biggest difference is 960 949 ha between the Department of Rural Development and Land Reform's (the DRDLR's) 2013 *Land Audit Booklet* (121 973 200ha) and the Municipal Demarcation Board's provincial demarcations of 2016 (122 934 149ha). At a modest density of 20 units per hectare (500m$^2$ stands) and an average of three persons per stands, it implies 19 218 981 stands that can potentially accommodate more than 57 million people, more than the 2016 population estimated at 56 million people. Small differences are indeed important.

The next consideration is that data always relates to context and time. Data serves a specific purpose at a specific point in time. Change is continuous, and the environment is very dynamic. One should always consider the age of data sets. The period from which data dates can have a significant impact on outcomes. What the objective was when compiling a data set and for what purpose remains an important consideration. Date and context lead to a further consideration which is not to use data what it was not intended for. Crude assumptions are also made by using proxies to generate information, for example using surnames as a proxy for race.

Further consideration may be a technical one, but is very important. Spatial analysis technology is advancing very rapidly and makes data accessible. However, we have only recently moved from analogy systems (mostly paper maps) to digital mapping. By capturing data errors do occur. For example, a digital version of magisterial district boundaries does have many obvious errors. However, it remains very useful, but one should always consider inherent challenges before criticising, rejecting and, importantly, using data and data sets.

The last, but one of the most important considerations, is the fact that data contains errors. The benefit of putting data in the public domain is the fact that it can be analysed and scrutinised. The next three examples help to explain the issue. Firstly, the 2013 *Land Audit Booklet*[4] quotes the total area of ex-homelands as 16 035 593 ha, when in fact there is an error in adding up the figures. According to the data in the table, the area is 18 434 124 ha – a difference of 2 398 531 ha. Also, Statistics South Africa's *Stats in Brief 2017* quotes the area of South Africa as 1 220 813 ha, but when the data in the table is added up, it should, in fact, be 122 933 800 ha.[5] These simple and very basic errors do occur. It does not nullify the data, however, but require checking and not simply accepting figures because it comes from a reputable source. Secondly, errors happen and then become institutionalised, for example when the municipal boundaries for the northern coastal municipalities in KwaZulu-Natal are compared in subsequent demarcations. Since 2006, the boundaries of these municipalities have extended about 5,5km into the sea, which was not previously the case. These boundaries have now become part of the system, and all calculations on spatial attributes of municipalities now include these additional areas. The last and maybe most important example for this report is an article published by under the title *State-controlled land in four maps*[6] by the author of this report. The particular blog concluded that 42,7% of all land in South Africa was under state control. It is simply wrong. A basic error in the calculations used cumulative figures rather that incremental amounts and double counting occurred. Although the maps depicted the correct situation, the

[4] DRDLR. *Land Audit Booklet.* 2013 (p. 8). http://www.ruraldevelopment.gov.za/phocadownload/Cadastral-Survey-management/Booklet/land%20audit%20booklet.pdf.

[5] The area provided in the publication is 1 220 813 ha, but this is a casting error when adding the provincial areas together as provided in the document.

[6] http://www.mapable.co.za/single-post/2018/03/06/State-controlled-land-in-four-maps

accompanied figures were wrong. It was only through public scrutiny that these errors were detected. It underlines the importance of dealing with data in the public domain.

# 2 A general overview of land in South Africa

According to Onyekachi Wambu, Director of the African Foundation for Development, Africans are obsessed with land "since land is at the heart of the liberation struggle". Africans understand the importance of land in the spiritual, political and economic sense. In Africa land equals freedom.[7] However, in narrower economic terms, land is simply one of the four production factors in any economic system. This view brings land into the realm of economy and politics, and thus ideology. Where a single object is simultaneously afforded spiritual value and commodity status, it is obviously a breeding ground for deep-rooted differences and even conflict on who and how decisions on land are made.

The United States Agency for International Development (USAID)[8] states that around the world, millions of people, communities and businesses lack secure rights to one of their most important economic assets: land. Up to 70% of land in developing countries is unregistered[9]. Unregistered land, in many countries, leads to weak or ineffective systems that govern land access and property rights. For women, who have less access, control and ownership of land than men, this insecurity impacts them disproportionately.

They continue that "weak property rights and poor land management represent fundamental barriers to our top priority at USAID — advancing free and prosperous societies that progress beyond the need for foreign assistance". USAID concludes by stating that evidence is clear that strong property rights are an essential foundation for economic growth and responsive democratic governance. They write that experience has shown that resolving land disputes and clarifying property rights can help reduce tension, create lasting stability, and set the stage for productive investments and economic growth.

As can be expected, the land question in South Africa has many dimensions, for example the ideological dimension oscillating between full-scale land nationalisation versus private ownership; or the socio-political dimension focusing on the land restitution, the legal perspective dealing with forms of ownership or the economic perspective regarding land as a production factor and creator of opportunities for entrepreneurs and workers alike. There are indeed many more ways to approach land, of which all contribute to defining the complexity of land and the role of land in society and the economic development of South Africa. In the end, it all comes down to who controls land and who makes the decisions regarding land and the use of land.

The land situation in South Africa was described as "combustible" due to the inability of the ANC government to redistribute land to the extent that it promised in 1994. Government planned to redistribute 30% of white-owned farms to blacks within 20 years. Transfers are behind schedule, and more than half have failed.[10]

## 2.1 South Africa's land and land registration system

Debates about land and landownership in South Africa is only possible because of a land surveying and land registration system existing for more than three centuries. The Land Survey Act, 1927 (Act No 9 of 1927) put cadastral surveying in South Africa in the position it is today; according to the Surveyor General of South Africa, it is one of the best and most reliable systems of defining the boundaries of properties, and the positions of rights affecting those properties anywhere in the world. The individual land surveyor's field and office records were examined and, after approval, were preserved in the Surveyor-General's office as evidence for any future boundary relocation. All surveys are also connected to the national control survey system, as this was extended across the country. This Act was used with only minor amendments for 60 years until it was replaced by a new, but the substantially similar Land Survey Act in 1997 (Act No 8 of 1997).[11]

Given the apparent link between economic prosperity and property rights, South Africa's land surveying and land registration system is undoubtedly the cornerstone of development and may be the single most underrated factor that distinguishes South Africa from the rest of Africa in economic terms.

[7] O. Wambu. 13 September 2014. *Land equals freedom*. http://newafricanmagazine.com/land-equals-freedom/

[8] USAID, *7 Ways USAID is Strengthening Land Rights*. https://medium.com/usaid-2030/7-ways-usaid-is-strengthening-land-rights-ba1165a668b0

[9] Also see D. Burmanjee, CEO of Dutch Kadaster as quoted by M Choudhary. 6 April 2018. *70% of the World Do Not have Land Registration*. https://www.geospatialworld.net/videos/70-of-the-world-do-not-have-land-registration/

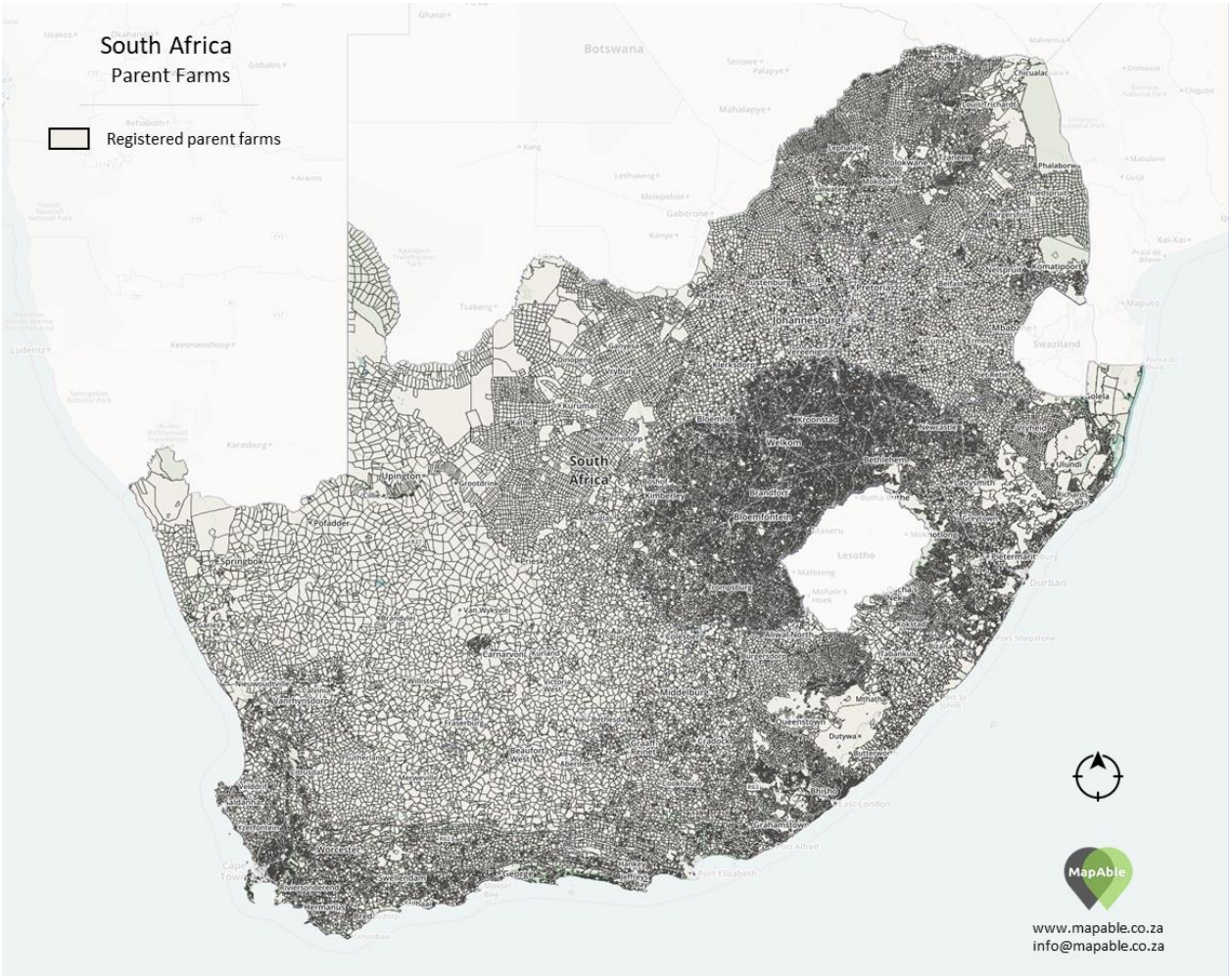
[10] J. Moore. 30 January 2010. *Land disputes at the root of African wars*. The Christian Science Monitor. https://www.csmonitor.com/World/Africa/2010/0130/Land-disputes-at-the-root-of-African-wars

[11] Chief Surveyor General. *Cadastral Surveying: What is it and why do we need it?* http://csg.dla.gov.za/cadsurv1.htm

Land in South Africa consists of a hierarchy of land and land portions which exist within a legal framework. The basic unit is parent farms (Afrikaans: *oerplase*) which cover 120,3 million ha and implies that about 2,7 million ha of South Africa's surface is not included. It is notable how the size of parent farms also reflects the underlying land potential, and how different approaches to farm sizes also existed in the previous provinces and even in the Boer Republics and colonies which preceded the Union of South Africa in 1910.

The next cadastral layer in South Africa is farm portions that resulted from the subdivision of parent farms. The division of farmland may have many different reasons. Many subdivisions take place for inheritance purposes or simply as a result of the buying and selling of farms for business purposes. A third reason is the expropriation of farmland by Government for many different reasons, for example establishing road reserves or building our large dams, or, more in the framework of the debate, to consolidate land regarding the old homeland policy.

*Map 1: Parent farms in South Africa*




*Source: Surveyor General of South Africa*

It is, however, at this point where the process starts to get complicated. Legally, farmland can only be used for agricultural purposes. If not, then different legal processes apply. Mining does take place on farmland, but then mining permits are required. The same applies where business and industries need to be established on farmland. This usually relates to agro-processing or agriculture-related uses. Farm portions exist at two levels: firstly, as a land portion duly surveyed and registered with the Office of the Survey General; secondly, its ownership is determined through a title deed in the Office of the Registrar of Deeds.

Farm portions and hence farmland cannot be used for residential settlement. Therefore, legislative processes in terms of the Spatial Planning and Land Use Management Act of 2013 (Act No 16 of 2013) requires a layout plan indicating the erven or stands with their proposed land use rights. After meeting all legal requirements, the land is surveyed, and a General Plan is approved in

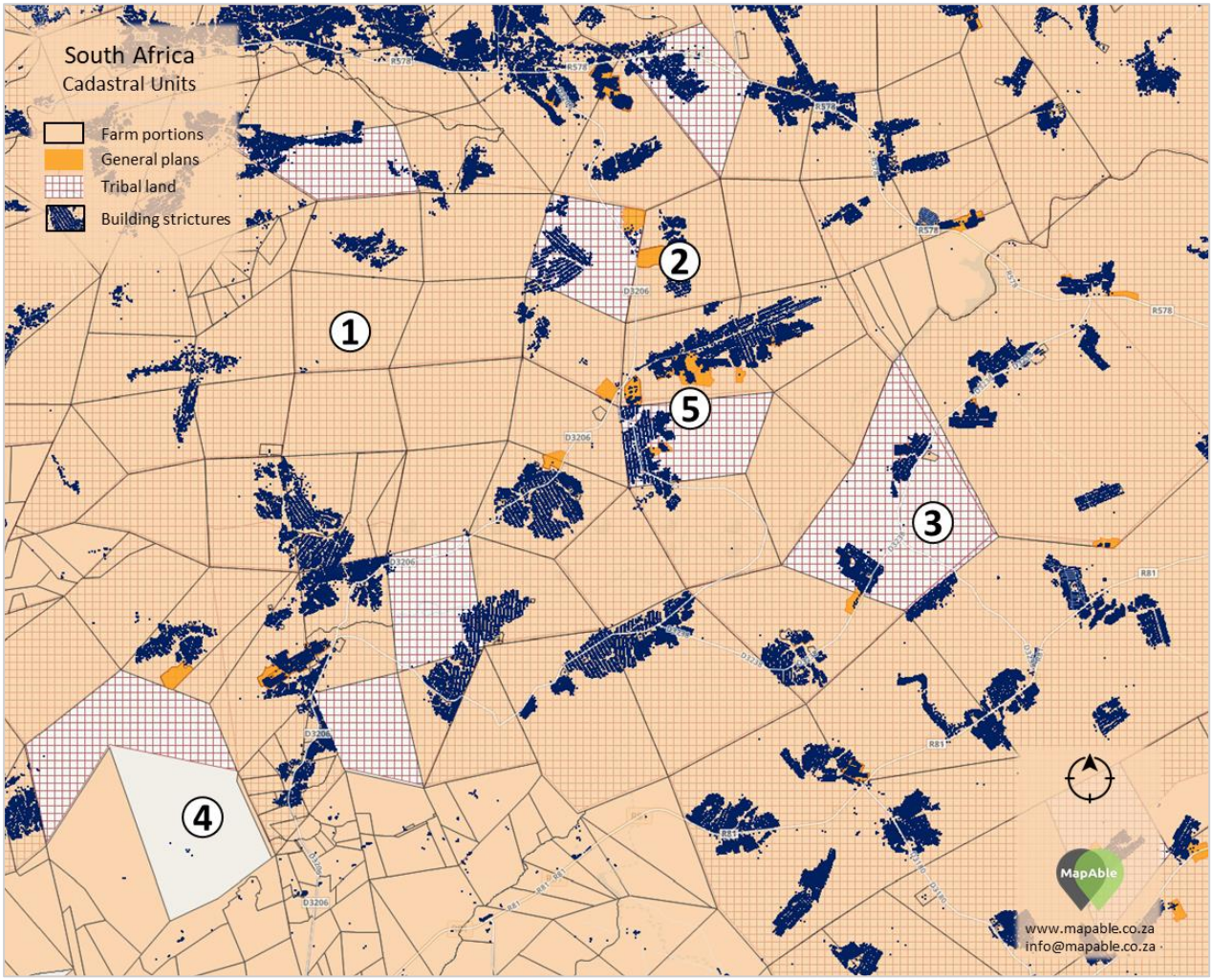
and filed in the Offices of the Surveyor General. A township[12] register is opened, and after proclamation in a Provincial Gazette, title deeds can now be registered with the Registrar of Deeds and the transfer of land with the rights vested in it through township establishment can now be transferred to private owners.

The process described above applied to the areas outside ex-homelands. Townships established for black settlement, tribal areas and ex-homeland areas were subject to different processes. For example, most townships were planned and surveyed to ensure orderly settlement of people. However, General Plans were never approved. It was only with the advent of Black Local Authorities in 1982 (Black Local Authorities, 1982 (Act No 102 of 1982)) that many townships were surveyed and general plans registered. However, these townships were never formally proclaimed and hence the difficulties to transfer title deeds to current occupants.

In "non-white" areas, the Regulations for the Administration and Control of Towns in Black Areas (Proclamation 293 of 1962) was used to establish townships in former homeland areas. This proclamation was still in use until recently, pending the finalisation of the necessary regulations under of the Spatial Planning and Land Use Management Act, 2013 (Act No 16 of 2013).

The more difficult situation arose from tribal land. Tribal chiefs issue permission to occupy (PTO's) in their discretion and many settlements were established in this way. These settlements, often referred to as "rural villages" are mostly unplanned and simply exists as a conglomeration of households. This form of settlement created substantial pressure for infrastructure and social services with the consequence that in Government's drive to provide access to basic services, these settlements were literally cast in concreate and will remain a feature of the South African landscape for centuries to come. The following map describes some of the issues.

*Map 2: Farm portions, general plans and actual settlement (area west of Giyani in Limpopo)*




*Source: StatsSA, cadastre from the Surveyor General and Dwelling Frame (2015)*

[12] The term "township" in this context refers to the legal process creating erven or stands. It does not refer to the general term for settlements where black people resided under the pre-1994 dispensation.

① A typical farm portion as depicted by the data on farm portions maintained by the Surveyor General.

② The Government of Limpopo had a program to "demarcate sites" in the tribal areas of the province. Local municipalities and or tribal authorities determined these areas. The selected areas were planned, taken through the township establishment process to the point that General Plans were registered in the office of the Surveyor General. These townships were never proclaimed. Transfer of land cannot take place.

③ Farm portions also exist in tribal areas. Settlement on this land is at the discretion of the local tribal authority. It creates challenges for local municipalities, who have the legal responsibility to manage land uses but cannot exercise control over tribal authorities' land allocation decisions.

④ This is a farm portion outside the tribal area. However, all the "lighter" shaded farm portions on the map represent gaps in the farm portion data of the Surveyor General. It is unclear why these gaps exist. These gaps represent about 3,25 million ha in total.

⑤ The maps show that there is no link between cadastral boundaries, efforts to manage settlement and where actual settlement takes place. The aim to transfer land in tribal areas to the current occupants may be the objective, but the practical and legal road to achieving this will be very long and difficult.

When summarised from the data of the Office of the Surveyor General, it shows that stands or erven constitute a relatively small portion of land in South Africa. They are however very important regarding numbers and eventually the activities, and people they accommodate.

## 2.2 Land data reflected in the records of the Surveyor General

The next two tables show a summary of data from the Surveyor General's data. In assessing the data, it should be noted that the data is based on 2015 records and that cadastral data is dynamic in the sense that farm portions are continuously being subdivided and consolidated and also that township establishment is a process that changes the data on a daily basis.

The table below shows a summary of land covered by parent farms, farm portions and erven/stands in South Africa. The next table also shows more detail on erven. The fact of the matter is that there are gaps in the data and any discourse on land, from a spatial perspective, deals with incomplete data.

*Table 2: Summary of land parcels 2015*

| | Parent farms | Farm portions | Erven |
|---|---|---|---|
| Total land parcels | 98 439 | 450 231 | 7 315 845 |
| Average size (ha) | 1 221.75 | 265.81 | 0.40 |
| Total area (ha) | 120 267 886 | 119 674 308 | 2 959 507 |
| Total South Africa (ha) | 122 934 144 | 122 934 144 | 122 934 144 |
| Not covered | 2 666 258 | 3 259 836 | 119 974 637 |
| % not covered | 2,17% | 2,65% | 97,59% |

*Source: Summarised by MapAble from the Surveyor General's spatial data (2015)*

Linking the data on erven to the example detailed in the previous section, one can safely conclude that there is not necessarily a link between the location and availability of erven and the settlement of people. Also, the existence of surveyed erven also do not necessarily allow for the transfer of ownership to occupants. These matters are dealt with in more detail later in this report.

*Table 3: The extent of surveyed erven in South Africa*

| | Number of erven | Average size (m2) | Total area (ha) | Area of Province (ha) | Erven as % of the total area |
|---|---|---|---|---|---|
| Eastern Cape | 933 480 | 8 689 | 811 069 | 16 930 984 | 4,8% |
| Free State | 670 445 | 967 | 64 847 | 13 001 148 | 0,5% |
| Gauteng | 1 916 522 | 1 105 | 211 836 | 1 818 249 | 11,7% |
| KwaZulu-Natal | 822 155 | 2 878 | 236 585 | 9 445 102 | 2,5% |
| Limpopo | 478 487 | 1 276 | 61 060 | 12 580 603 | 0,5% |
| Mpumalanga | 564 598 | 1 284 | 72 492 | 7 654 431 | 0,9% |
| Northern Cape | 258 324 | 39 730 | 1 026 328 | 37 827 661 | 2,7% |
| North West | 488 684 | 1 278 | 62 432 | 10 523 812 | 0,6% |
| Western Cape | 1 183 150 | 3 489 | 412 857 | 13 152 154 | 3,1% |
| Totals | 7 315 845 | 4 045 | 2 959 507 | 122 934 144 | 2,4% |

*Source: Summarised by MapAble from the Surveyor General's spatial data (2015)*

# 3 State-controlled land versus land to the disposal of the private sector

Irrespective of ideological perspectives, it is a fact that the State and the many parastatals associated with the state play an important role in land ownership and access to land. With a view regarding land as one of the four economic production factors, it stands to reason that Government cannot play its role, good or bad, in the economy without access to and ownership of land. However, when Government accumulates land for any other purpose, then questions may rightly be asked. It all comes down to the motives of Government and in the current debate on Government and land is not about its role in the economy but rather, through social engineering, to achieve political and ideological objectives.

This report does not concern itself with Government's objectives, but rather with the facts about land. As this report will show, a lot is known about land in South Africa, but often our knowledge and the sources we do depend on is incomplete, outdated or not intended to inform a land debate. Terrence Corrigan writes: "The first principle of good public policy is that it must be based on good evidence: correctly identifying issues, understanding the actual state of play, and envisioning solutions that are possible within the real-world capacities of the interest groups involved. In the absence of evidence, government actions are likely to be arranged around an alt-reality of untested assumptions of fact and ideology. And when that happens, it's hardly surprising when policy outcomes don't match expectations, or even prove downright counterproductive."[13]

This section deals with state land, or rather land that the state controls, and which is currently not at the disposal of the private sector. It is done in four steps that build a picture by:

1. Mapping and tabulating land used for the 2013 land audit by the Department of Land Rural Development and Land Reform.[14]
2. The 2013 data excludes some tribal land which is also under the custodianship of Government. In this step, the balance of the tribal land found but excluded from the 2013 land audit was added.
3. As a third step, the extent of the ex-homelands was overlaid with the results of the previous two steps, and it was found that there are portions that were part of the homeland but were excluded from the results of the land audit and which is neither part of tribal land. Private ownership did not exist in the homelands, and after land was expropriated in the previous dispensation, it was either transferred to the governments of the "independent" homelands (TBVC countries) or the South African Development Trust in the case of self-governing territories (Lebowa, Gazankulu, KaNgwane, KwaNdebele and QwaQwa).
4. It the last step it was argued that terrestrial national parks and provincial parks should be excluded from any land debate but included as land, de facto being under Government control.

[13] T. Corrigan. 13 March 2018. *The land audit – incomplete information and bad policy*. https://www.dailymaverick.co.za/
[14] A land data set was prepared for the 2017 DRDLR land audit, but at the time of drafting this report it could not be accessed.

## 3.1 Land audit 2013

Land audits are very popular projects in Government. There is a continuous stream of land audit projects out on tender to address landownership in municipalities. The basis for the current debate is the land audits done by the Department of Rural Development and Land Reform (DRDLR).

The DRDLR describes a land audit as gathering information relating to the –

1. Owner;
2. Occupant/user;
3. Rights to the land;
4. Current usage of the land; and
5. Buildings and improvements that exist on it.[15]

The process is aimed at compiling an accurate land register (of state land) that provides detailed information on the –

1. Rights that exist over the land;
2. Buildings that exist on the land;
3. Current usage of the land and buildings/improvement situated on it;
4. State division/Department that is the holder of the title deed of the land; and
5. The occupant/user of the land.

According to the report, state land is defined as land that is owned by the State (national, provincial and local municipalities, as well as parastatals). The report specifically focuses on land registered in the name of the State in the Deeds Registrar's Office.

According to the report, the audit was conducted for all nine provinces of South Africa and comprised two phases:

- Phase 1: A study of the Deeds Offices' records was conducted in 2010, to identify all pieces of land registered in the name of the State.
- Phase 2: Every piece of identified state land was then confirmed by a site visit where all information relating to occupant/user and contact details, existing buildings and services, whether it was, in fact, state or private land, occupation agreements, etc. were determined.

The report states that the first phase of the audit was performed by the Office of the Surveyor General and the second phase was concluded by state officials with the assistance of contract workers employed by the DRDLR.

The results of the land audit are available as a list of tables. The table in the booklet showing the national overview is relevant.

*Table 4: Land audit 2013 – Private versus state land*

| | Extent (ha) | State-owned | Privately owned | State-owned land (%) | Privately owned land % | Total extent (ha) | Unaccounted extent (ha) | Unaccounted extent (%) |
|---|---|---|---|---|---|---|---|---|
| Eastern Cape | 16 891 700 | 1 510 553 | 11 370 084 | 8,9% | 67,3% | 12 880 637 | 4 011 063 | 23,7% |
| Free State | 12 982 600 | 845 084 | 11 857 160 | 6,5% | 91,3% | 12 702 244 | 280 356 | 2,2% |
| Gauteng | 1 817 800 | 304 137 | 1 181 518 | 16,7% | 65,0% | 1 485 655 | 332 145 | 18,3% |
| KwaZulu-Natal | 9 332 800 | 4 695 245 | 4 297 235 | 50,3% | 46,0% | 8 992 480 | 340 320 | 3,6% |
| Limpopo | 12 575 600 | 2 551 790 | 8 844 083 | 20,3% | 70,3% | 11 395 873 | 1 179 727 | 9,4% |
| Mpumalanga | 7 649 500 | 1 875 146 | 4 805 344 | 24,5% | 62,8% | 6 680 490 | 969 010 | 12,7% |
| North West | 10 488 100 | 2 409 778 | 7 481 942 | 23,0% | 71,3% | 9 891 720 | 596 380 | 5,7% |
| Northern Cape | 37 288 800 | 1 829 347 | 35 210 998 | 4,9% | 94,4% | 37 040 345 | 248 455 | 0,7% |
| Western Cape | 12 946 300 | 1 040 801 | 11 502 427 | 8,0% | 88,8% | 12 543 228 | 403 072 | 3,1% |
| Total | 121 973 200 | 17 061 881 | 96 550 791 | 14,0% | 79,2% | 113612672 | 8 360 528 | 6,9% |

*Source: DRDLR,* Land Audit Booklet*, p. 9 (2013)*

[15] DRDLR. 2013. *Land Audit Booklet,* p. 7. http://www.ruraldevelopment.gov.za/phocadownload/Cadastral-Survey-management/Booklet/land%20audit%20booklet.pdf

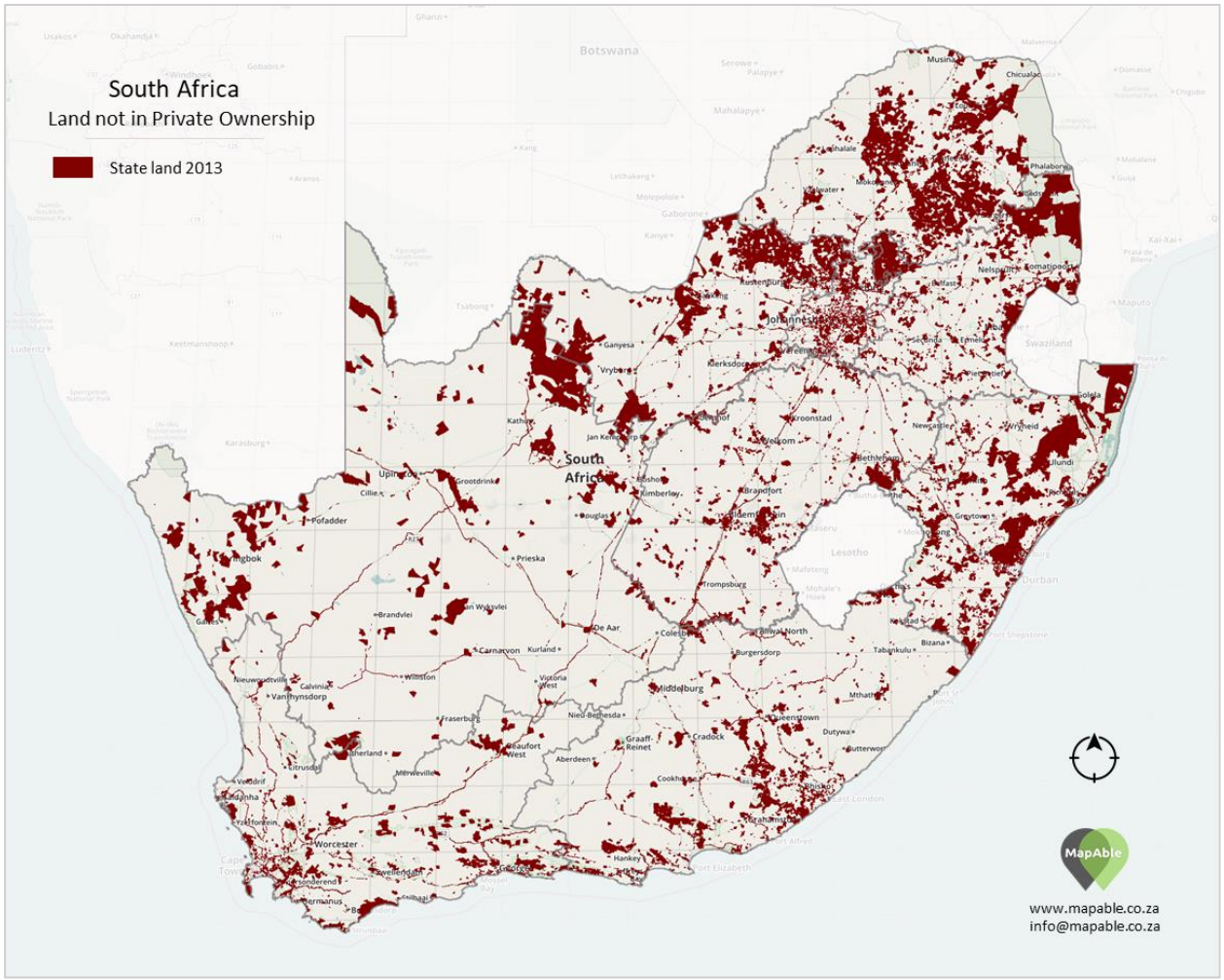
The data in the table raises several issues. Firstly, the size of South Africa as indicated in the table is about 960 949 ha smaller than 13 other official and unofficial sources report (see section 1.3 for more background on this matter). The difference is less than 1%, but regarding average farm portion size of 210 ha, according to the 2013 *Land Audit Booklet*, it represents more than 4 500 farm portions or, at 4 000 m$^2$ per erf more than 2,4 million erven.[16] These figures are significant in any land debate. Secondly, one must assume that the 17,06 million ha shown as state-owned land includes proclaimed stands in townships. Data on erven or stand in proclaimed townships and the ownership thereof was not available for detailed assessment. Figures quoted in this report as land under control of the State should thus be lower than figures quoted by the DRDLR. Thirdly, the "unaccounted extent" in the table able proved to be mostly unregistered trust land to be added to the total state land component.[17] The 2017 Land Audit Report states regarding its own reconciliation of total land that "the outstanding 7 701 605 ha or 6% is unregistered trust state land in the Eastern Cape and Limpopo at 5 545 156 ha." The 7,7 million ha corresponds more or less with the unaccounted extent in the table above. It is, however, not clear what the 5,5 million ha in Limpopo refers too.

## 3.2 Registered farm portions under state control 2013

The figures and maps shown in the steps below were calculated directly from the spatial data provided by the DRDLR. It is however impossible to reconcile the details of the subsequent calculations with summary values presented in the land audit documentation released by DRDLR.

The map below shows the farm portions mapped from the DRDLR spatial data on state land compiled in 2013.

*Map 3: State land 2013 – farm portions only*




[16] DRDLR. November 2017. *Land audit report, Version 2*, p. 7.
[17] DRDLR. November 2017. *Land audit report, Version 2*, p. 2.

*Source: Department of Rural Development and Land reform, Spatial data on State land – Farm portions 2013*[18]

*Table 5: Summary of state land (farm portions) per province, 2013*

| Province | State land | % distribution of state land across provinces |
|---|---|---|
| Eastern Cape | 998 809 | 7,5% |
| Free State | 740 605 | 5,5% |
| Gauteng | 320 528 | 2,4% |
| KwaZulu-Natal | 1 946 935 | 14,6% |
| Limpopo | 2 573 799 | 19,3% |
| Mpumalanga | 1 481 959 | 11,1% |
| Northern Cape | 2 519 899 | 18,9% |
| Northwest | 1 983 061 | 14,8% |
| Western Cape | 791 641 | 5,9% |
| Total (ha) | 13 357 235 | 100,0% |

*Source: Tabulated by MapAble from the DRDLR's 2013 land audit data.*

The maps show how diverse the land interests of the state are. It reflects on many different land uses and land held for various purposes. The table below summarises the use of state land. Land use is embedded as a variable in the dataset.

*Table 6: The use of state land 2013*

| Land use | Area in ha | % | Cumulative % |
|---|---|---|---|
| Agriculture and fisheries | 4 031 971 | 30,2% | 30,2% |
| Residential | 2 273 248 | 17,0% | 47,2% |
| Conservation | 1 830 536 | 13,7% | 60,9% |
| Recreation and leisure | 1 560 313 | 11,7% | 72,6% |
| Forestry | 1 299 431 | 9,7% | 82,3% |
| Undeveloped land | 1 048 550 | 7,9% | 90,2% |
| Transport | 376 273 | 2,8% | 93,0% |
| Utilities and infrastructure | 279 117 | 2,1% | 95,1% |
| Protection services | 207 364 | 1,6% | 96,6% |
| Community services | 186 295 | 1,4% | 98,0% |
| Water | 84 628 | 0,6% | 98,7% |
| Commercial | 77 148 | 0,6% | 99,2% |
| Relay out | 44 322 | 0,3% | 99,6% |
| Mining | 38 947 | 0,3% | 99,9% |
| Industrial and storage | 16 503 | 0,1% | 100,0% |
| Fully sub-divided | 2 351 | 0,0% | 100,0% |
| Consolidated | 241 | 0,0% | 100,0% |
| | 13 357 235 | 100,0% | |

*Source: Spatial summary from the DRDLR's 2013 land audit data*

The data presents serious challenges. The following are a few examples. No detailed assessment was done, but examples were noted during the analysis of the data. The problem is that, in terms of the methodology, it was stated that "every piece of identified State land was then confirmed by a site visit where all information relating to occupant/user and contact details, existing buildings and services, whether it was in fact State or private land, occupation agreements, etc. were determined".[19] However, it seems to be riddled with inconsistencies in land uses. It is for example clear that some SANDF land is not included or in some cases only

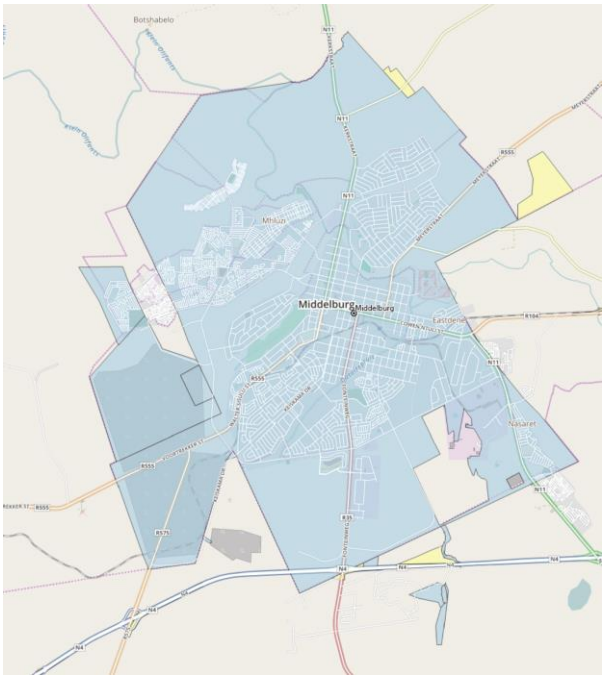
[18] The spatial analysis and mapping was done by MapAble from spatial data provided by the DRDLR. Based on an informal request by the DRDLR , MapAble undertook not to make the details of the data public.

[19] DRDLR. 2013. *Land Audit Booklet*, p. 7. http://www.ruraldevelopment.gov.za/phocadownload/Cadastral-Survey-management/Booklet/land%20audit%20booklet.pdf

partially included. The fact of the matter is that the 13,4 million ha indicated as state land can be substantially less or substantially more. As presented, the 13,4 million ha state land represents 10,9% of South Africa.

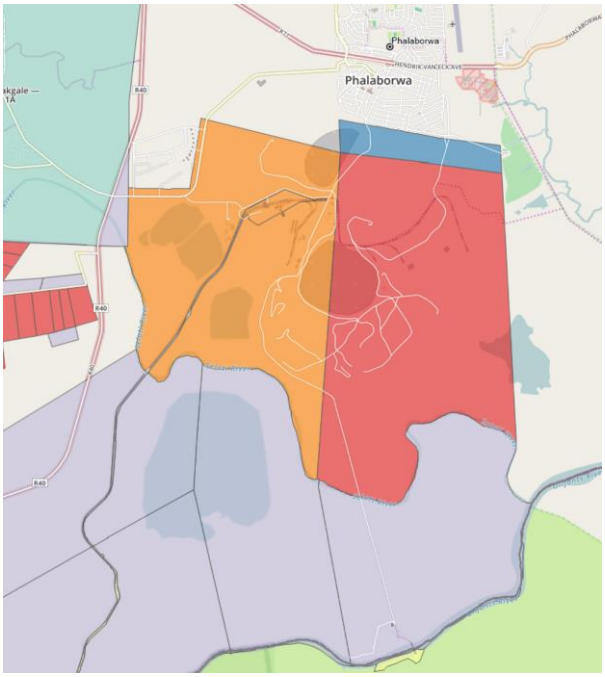
*Figure 1: Examples of inconsistencies in land data*

Middelburg (Steve Tshwete, Mpumalanga)



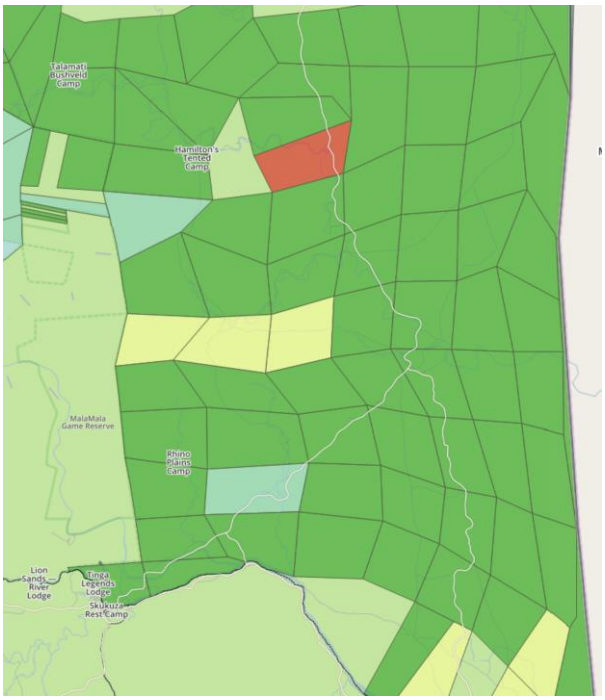

Middelburg (Steve Tshwete, Mpumalanga) is shown in its entirety as state land with "agriculture and fisheries" as the assigned land use. This is not correct, and the areas shown must have been the original farm portions that constituted the Middleburg Townlands

Phalaborwa Mining Complex



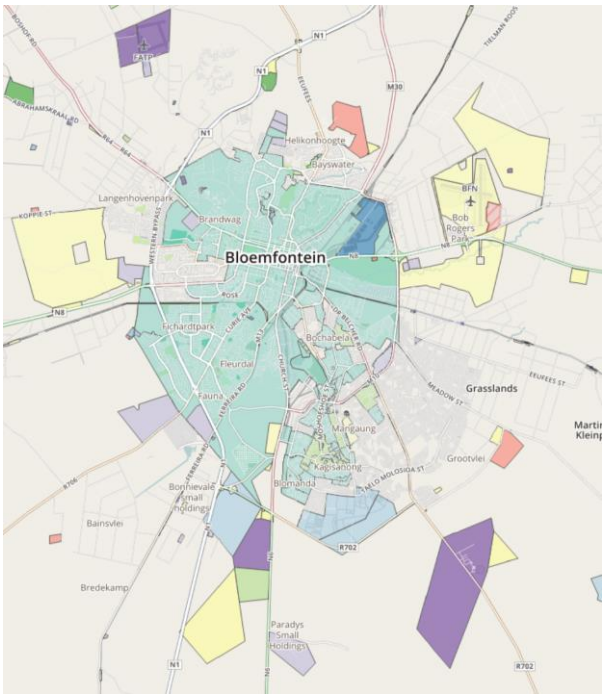

The map shows the areas occupied by the Phalaborwa Mining Company, Foskor and Bosveld Phosphates. It is shown as state land (which it may well be) but with the peculiar uses of forestry (red), undeveloped (grey) and industrial and storage (orange)

Southwestern part of Kruger National Park




The classifications of land use seem to be very inconsistent. Some parts of the Kruger Nation Park are shown as forestry (red) while others as residential (light blue)

Bloemfontein (Mangaung)

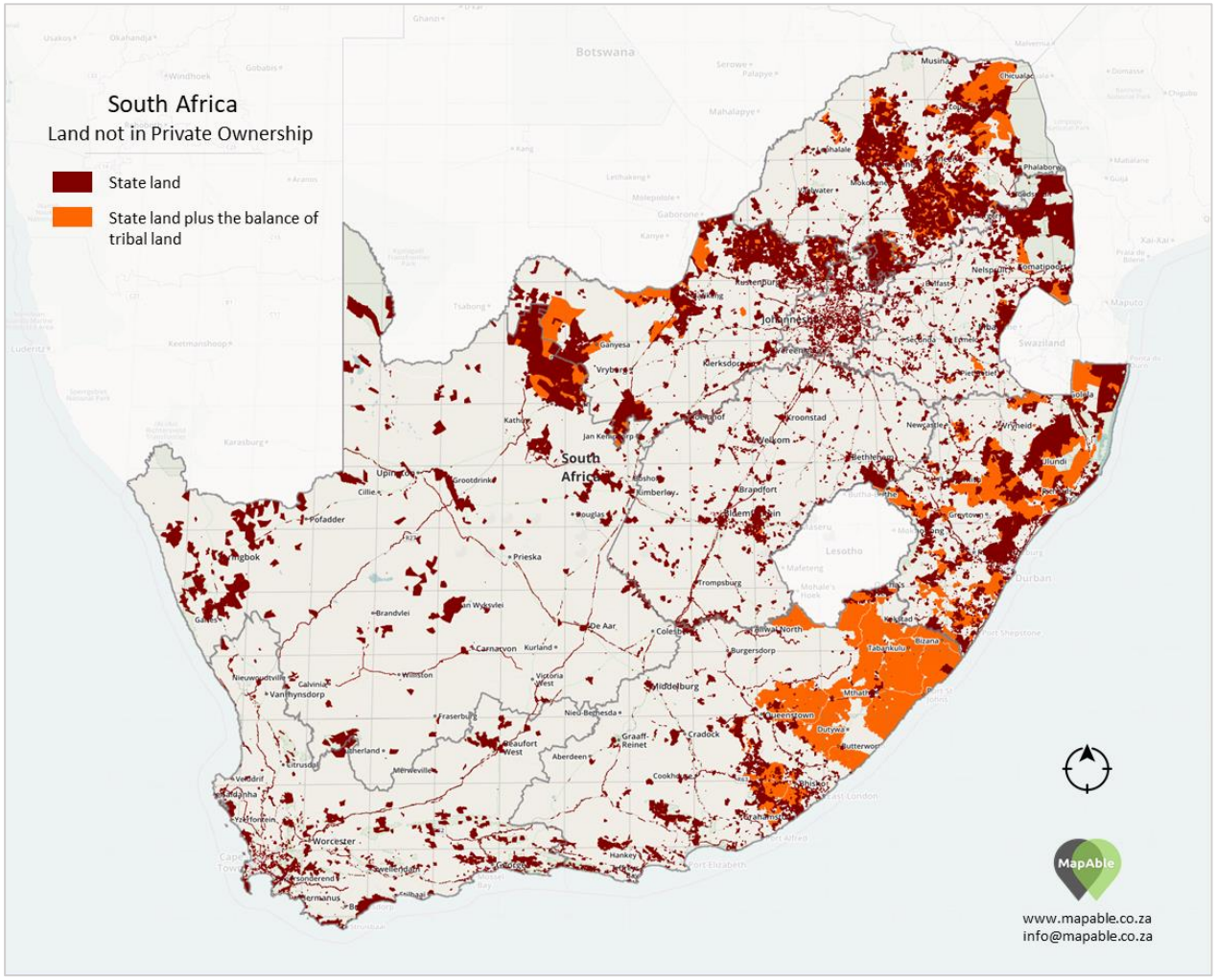



As in the case with the example of Middleburg (Mpumalanga), practically the whole of Bloemfontein is shown as state land with residential use.

## 3.3 Tribal land not shown as state land

Given the doubt about the accuracy of the reported state land data, the next step was to start filling in the gaps. The first step in filling in these gaps was to add the areas of tribal land not covered by the data on state land. The next map shows the areas that were added.

*Map 4: State land plus tribal land not included in the previous map*




*Source: Chief Directorate: National Geo-Spatial Information (tribal land component)*

There is a total of 14 million ha of tribal land in South Africa distributed across the nine provinces as shown in the table below. This added another 8,5 million ha of land controlled by the State to the equation. This is 6,9% of South Africa and brings the total of state and tribal land to 17,8% of the total land area of the country.

*Table 7: Extent of tribal land per province*

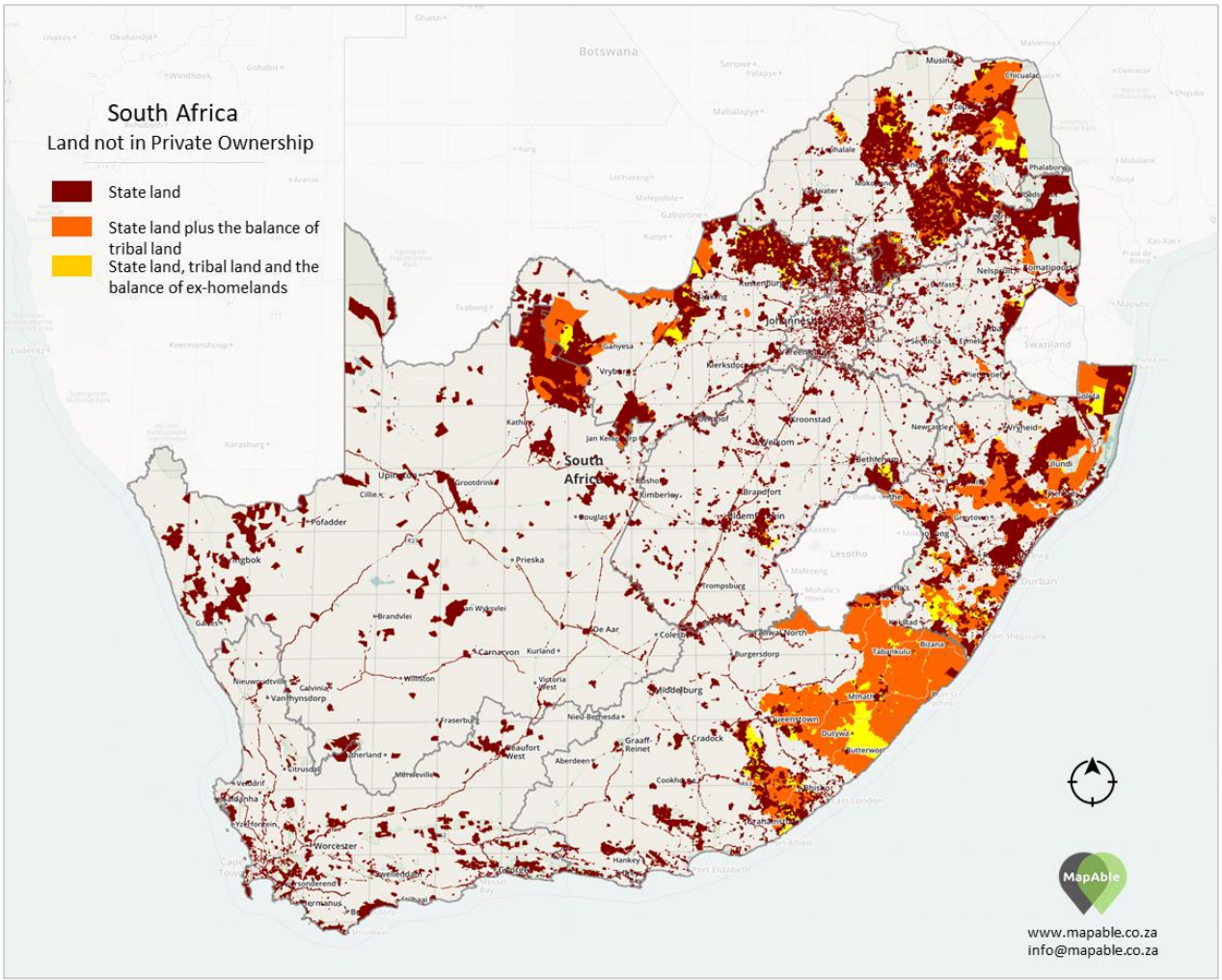
| Province | Area (ha) | % of total |
|---|---|---|
| Eastern Cape | 3 888 638 | 27,8% |
| Free state | 132 033 | 0,9% |
| Gauteng | 7 053 | 0,1% |
| KwaZulu-Natal | 3 253 921 | 23,2% |
| Limpopo | 3 181 512 | 22,7% |
| Mpumalanga | 654 963 | 4,7% |
| Northern Cape | 976 068 | 7,0% |
| Northwest | 1 916 212 | 13,7% |
| Western Cape | 0 | 0,0% |
| Total | 14 010 400 | 100,0% |

*Source: MapAble spatial summary from National Geo-Spatial Information, DRDLR*

## 3.4 Ex-homelands not included in state and tribal land

After discounting state-owned land and the remainder of tribal land, there are still portions that were part of the previous homeland dispensation which were not included in any of the previous two categories.

*Map 5: State and tribal land plus ex-homelands not included in previous maps*




*Source: Municipal Demarcation Board - [http://www.demarcation.org.za](http://www.demarcation.org.za) (ex-homelands)*

Again, there are discrepancies in data with substantial differences between DRDLR data (arithmetic errors excluded) and Municipal Demarcation Board data. The differences are shown in the table below.

*Table 8: Extent of ex-homelands*

| Homeland area | DRDLR Land Audit 2013[20] | | Summary from MDB data | | Difference (ha) between DRDLR and MDB |
|---|---|---|---|---|---|
| | Area (ha) | % of total | Area (ha) | % of total | |
| Boputhatswana | 3 991 519 | 21,7% | 3 884 072 | 22,7% | 107 447 |
| Ciskei | 947 960 | 5,1% | 799 952 | 4,7% | 148 008 |
| Gazankulu | 746 925 | 4,1% | 740 515 | 4,3% | 6 410 |
| KaNgwane | 366 314 | 2,0% | 351 509 | 2,1% | 14 805 |
| KwaNdebele | 337 332 | 1,8% | 327 060 | 1,9% | 10 272 |
| KwaZulu | 3 938 362 | 21,4% | 3 584 464 | 21,0% | 353 898 |
| Lebowa | 2 249 748 | 12,2% | 2 215 298 | 13,0% | 34 450 |
| QwaQwa | 114 525 | 0,6% | 104 690 | 0,6% | 9 835 |
| Transkei | 5 094 446 | 27,6% | 4 426 856 | 25,9% | 667 590 |
| Venda | 646 993 | 3,5% | 649 068 | 3,8% | -2 075 |
| Total | 18 434 124 | 100,0% | 17 083 484 | 100,0% | -1 047 891 |

*Source 1: DRDLR. (2013).* Land Audit Booklet, *p. 8.*
*Source 2: MapAble spatial summary from Municipal Demarcation Board Data*

For this report, the Demarcation Board data was used due to its availability. The additional area then added to land under control of the state was 2 429 171 ha which is another 2% of the area of South Africa. This bring the cumulative amount to 19,8%.

## 3.5 Protected areas

South Africa has an extensive system of protected and conservation areas owned by the State and private concerns. For this report, only protected areas under control of SANPARKS or provincial governments (State institutions) were used. The table below gives the overall picture of the extent of protected areas.

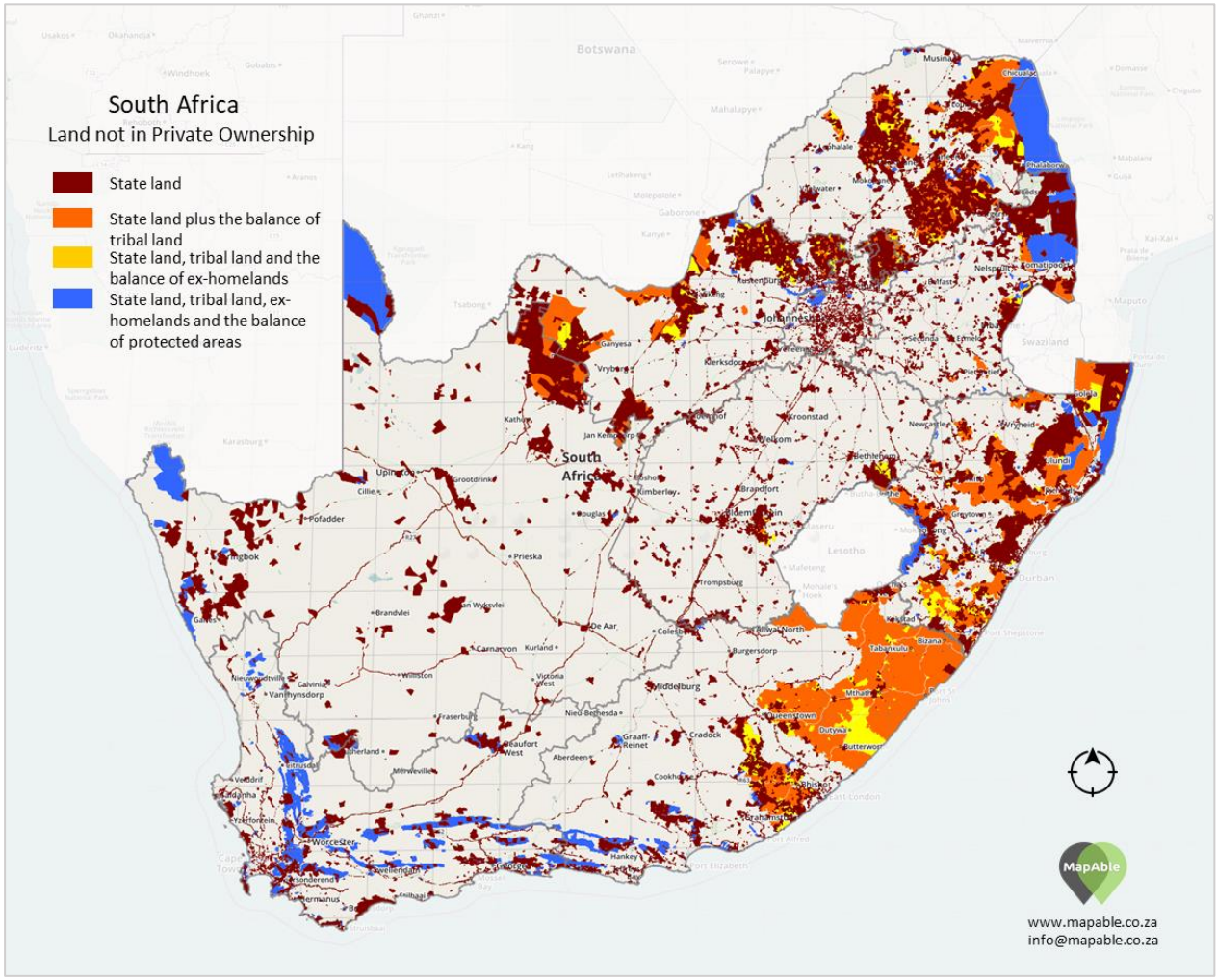
*Table 9: The extent of protected areas*

| Protected area type | Area (ha) | % of area | Notes |
|---|---|---|---|
| National park | 4 017 022 | 50,8% | |
| Nature reserve | 3 887 306 | 49,2% | Protected areas under provincial control |
| Sub-total | 7 904 328 | 100,0% | Area included in state land calculations |
| Marine protected area | 18 820 590 | 83,3% | Offshore areas |
| World Heritage Sites | 2 054 088 | 9,1% | These areas were not included in the calculation since private landownership can and do exist in these areas. These areas also include private nature reserves and conservation areas. |
| Protected environment | 590 098 | 2,6% | |
| Forest nature reserve | 173 608 | 0,8% | |
| Forest wilderness area | 276 734 | 1,2% | |
| Mountain catchment area | 635 579 | 2,8% | |
| Special nature reserve | 33 973 | 0,2% | |
| Total | 22 584 670 | 100,0% | |

*Source: MapAble summary from spatial data provided by the Department of Environmental Affairs*

[20] The DRDLR's *Land Audit Booklet* shows an error in the table on p. 8 in adding up the total area for ex-homelands. The booklet shows a total of 16 035 593 ha when, in fact, it should be 18 434 124 ha. This is a difference of 2 398 531 ha. Errors in data were dealt with as part of the introductory part of this report.

*Map 6: State, tribal land, ex-homelands plus protected areas not included in previous maps*




*Source: Department of Environmental Affairs (protected areas portion)*

The map above shows the extent of the protected areas included in the equation. It represents another 5,3 million ha, or 4,3% of the area of South Africa. It brings the total land under control of the state to 24,1% or 29,5 million ha.

## 3.6 Summary of state-controlled land by province

The table below summarises the state land position per province. As explained in the subsequent sections, the economic value of land (production value) plays a determining role, as well as population settlement and distribution.

*Table 10: Summary of state-controlled land per province in South Africa*

| Province | State land | The remainder of tribal land not included in the column B | The remainder of ex-homelands not included in columns B and C | The remainder of protected areas not included in columns B, C and D | Total land under state control | The total area of the province | State land as % of the total land area |
|---|---|---|---|---|---|---|---|
| A | B | C | D | E | F | G | H |
| Eastern Cape | 931 660 | 3 753 072 | 833 792 | 348 392 | 5 866 916 | 16 930 984 | 34,65% |
| Free State | 729 484 | 29 394 | 69 468 | 22 386 | 850 733 | 13 001 148 | 6,54% |
| Gauteng | 270 383 | 3 415 | 30 484 | 57 634 | 361 916 | 1 818 249 | 19,90% |
| KwaZulu-Natal | 1 957 858 | 1 891 568 | 505 390 | 586 090 | 4 940 907 | 9 445 102 | 52,31% |
| Limpopo | 2 429 635 | 1 303 988 | 496 218 | 1 136 637 | 5 366 478 | 12 580 603 | 42,66% |
| Mpumalanga | 1 613 060 | 266 666 | 75 830 | 48 675 | 2 504 231 | 7 654 431 | 32,72% |
| Northern Cape | 2 674 459 | 250 131 | 5 176 | 1 305 958 | 4 235 724 | 37 827 661 | 11,20% |
| Northwest | 1 906 380 | 985 937 | 395 204 | 79 428 | 3 366 949 | 10 523 812 | 31,99% |
| Western Cape | 843 066 | 0 | 0 | 1 207 426 | 2 050 492 | 13 152 154 | 15,59% |
| Total (ha) | 13 355 984 | 8 484 170 | 2 411 563 | 5 292 628 | 29 544 346 | 122 934 144 | 24,03% |
| Total | 10,86% | 6,90% | 1,96% | 4,31% | 24,03% | 100,00% | 24,03% |

*Source : Calculated by MapAble*

# 4 Agriculture and land

Agriculture uses more than 80% of available land and around 60% of available water. In reality, the sector represented less than 10% of the economy in 1960, while this figure is currently below 2,5%. South Africa is no exception, since the US agricultural sector currently represents around 1% of GDP.[21] From a development perspective access to agricultural land can either be the holy grail for development of a poverty death trap. However, in an increasingly globalised but complex agro-food system, land availability per se is only but one consideration driving investment decisions. Also of importance are the land governance systems per country, and specifically tenure security considerations, as well as infrastructure provision, market considerations, access to and cost of finance, political arrangements and stability, local skills availability and others.[22]

## 4.1 Land capability

Land capability is the total suitability for use, in an ecologically sustainable way, for crops, grazing, woodland and wildlife. A land capability class is an interpretive grouping of land units with similar potentials and continuing limitations or hazards. It is a more general term than land suitability and is more conservation oriented. It involves consideration of (i) the risks of land damage from erosion and other causes and (ii) the difficulties in land use owing to physical land characteristics, including climate. The overall agricultural potential is a combination of many factors. It gives an indication of the type of activity that is most suited to an area and the capability of the land. Land capability is determined mainly by the collective effects of soil, terrain features and climate. In the process of assessing the potential of the use, the current limitations of the land are considered. However, it may be possible to overcome some of the limitations through fertilisation or liming, for example.[23]

The capability classification system was applied to rain-fed agriculture and excludes any form of irrigation. Economic considerations such as proximity to markets and the farmer's capital resources are not included as criteria for land capability. The land suitability is presented in a hierarchy ranging from land with few limitations on its use, starting with crop production through a range of other less intensive uses such as pasture, natural grazing, forestry and wildlife. Land suitability is linked to good farm management practices.

[21] J. Greyling. March 2015. *A look at the contribution of the agricultural sector to the South African economy*. http://www.grainsa.co.za/a-look-at-the-contribution-of-the-agricultural-sector-to-the-south-african-economy

[22] W. Sihlobi. Not dated. *Land dynamics in Africa: What is the potential for agricultural expansion?* https://wandilesihlobo.com/2018/04/01/land-dynamics-in-africa-what-is-the-potential-for-agricultural-expansion/amp/

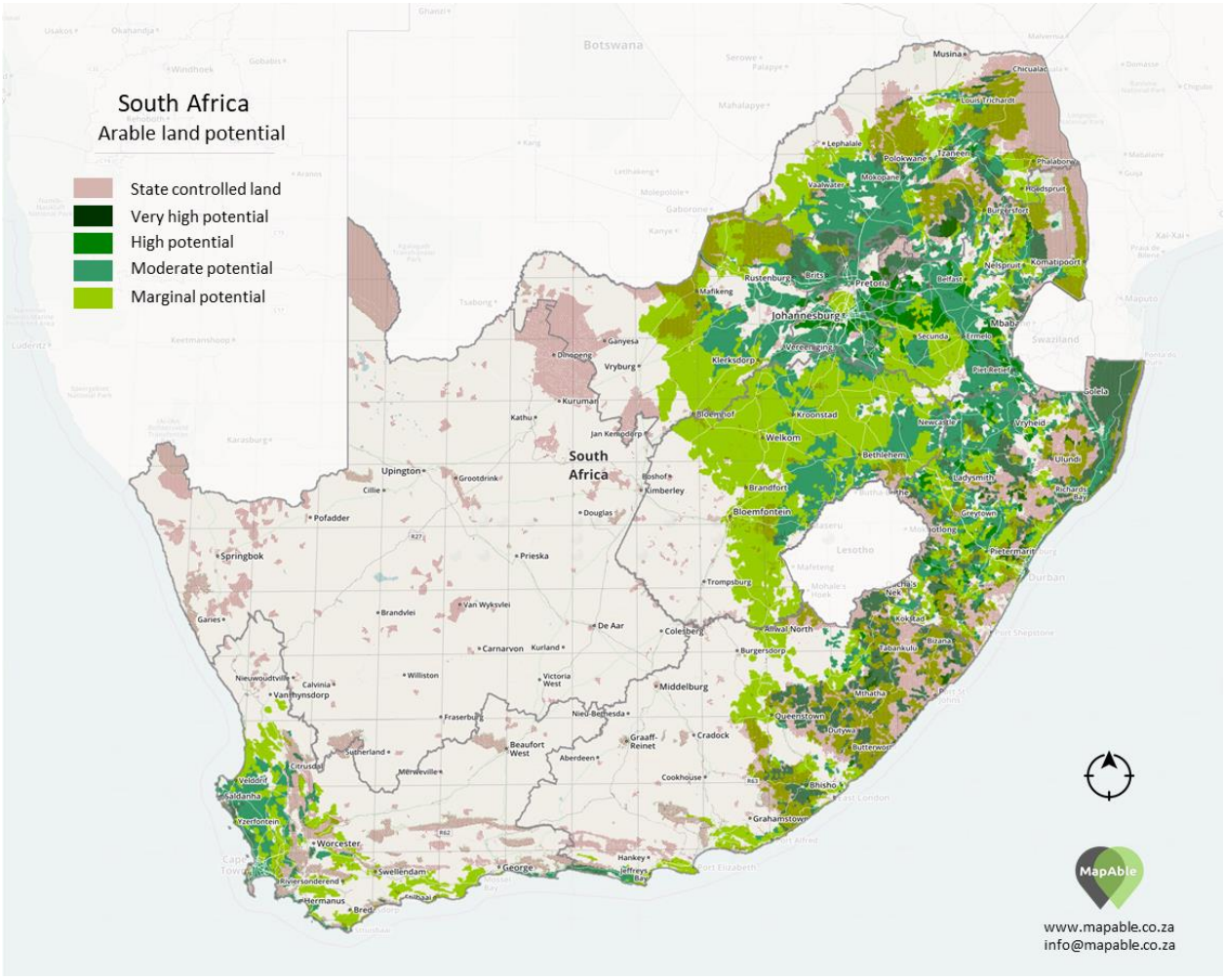
[23] J.L. Schoeman et al. April 2002. *Development and application of a land capability classification system for South Africa*, GW/A/2000/57. National Department of Agriculture.

### 4.1.1 Arable and non-arable land

South African land can be divided into two main groups, namely arable and non-arable land. This report focuses in this section only on arable land that consists of four subclasses, as depicted on the next map. Arable land is concentrated in the central Highveld and extends into parts of the Lowveld, KwaZulu-Natal and the Eastern Cape. In the southern parts of South Africa, it is limited to the very narrow coastal belt. It constitutes 32,4 million ha or 26,4% of the area of South Africa.

The next map and the three tables below show the distribution of land capability across the nine provinces

*Map 7: Arable land potential*




*Source: ARC-ISCW. 2005.* Overview of the agricultural natural resources of South Africa. *ARC-ISCW Report No GW/A/2004/13, ARC-Institute for Soil, Climate and Water, Pretoria.* [http://www.agis.agric.za/](http://www.agis.agric.za/)

*Table 11: Land capability per province ('000 ha)*

| | EC | FS | GT | KZN | LIM | MP | NC | NW | WC | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 Very high-potential arable land | 2,7 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 2,7 |
| 2 High-potential arable land | 78,8 | 12,7 | 389,3 | 407,1 | 96,9 | 872,2 | 0,0 | 22,0 | 0,0 | 1 879,1 |
| 3 Moderate-potential arable land | 1 192,4 | 2 243,0 | 704,5 | 2 694,6 | 2 437,2 | 2 086,6 | 0,0 | 1 758,1 | 915,9 | 14 032,3 |
| 4 Marginal-potential arable land | 1 832,5 | 5 350,9 | 123,3 | 1 156,4 | 2 741,7 | 1 597,0 | 0,0 | 2 811,2 | 867,9 | 16 480,9 |
| Total arable land | 3 106,4 | 7 606,6 | 1 217,1 | 4 258,1 | 5 275,8 | 4 555,9 | 0,0 | 4 591,3 | 1 783,8 | 32 395,0 |
| 5 Moderate-potential grazing land | 1 732,5 | 3 534,7 | 80,1 | 269,3 | 3 379,0 | 383,9 | 1 411,0 | 2 327,8 | 536,5 | 13 654,8 |
| 6 Low- to moderate-potential grazing land | 4 622,7 | 822,8 | 345,6 | 2 947,3 | 2 028,5 | 1 978,3 | 1 496,8 | 1 654,2 | 2 283,2 | 18 179,3 |
| 7 Low-potential grazing land | 4 776,4 | 583,5 | 0,0 | 1 305,0 | 562,8 | 340,5 | 31 277,3 | 1 621,6 | 5 440,2 | 45 907,4 |
| Total grazing land | 11 131,6 | 4 941,0 | 425,7 | 4 521,6 | 5 970,3 | 2 702,7 | 34 185,2 | 5 603,5 | 8 260,0 | 77 741,5 |
| 8 Wilderness | 2 641,3 | 378,2 | 172,3 | 482,9 | 1 327,1 | 387,2 | 3 626,1 | 310,3 | 3 076,0 | 12 401,4 |
| 9 Water | 37,2 | 73,7 | 3,2 | 69,6 | 5,8 | 5,8 | 10,8 | 17,0 | 23,9 | 246,9 |
| Total water and wilderness | 2 678,5 | 451,8 | 175,5 | 552,5 | 1 332,8 | 393,0 | 3 636,9 | 327,3 | 3 099,9 | 12 648,4 |
| Grand Total | 16 916,6 | 12 999,5 | 1 818,2 | 9 332,2 | 12 578,9 | 7 651,6 | 37 822,0 | 10 522,2 | 13 143,7 | 122 784,8 |

*Source: MapAble spatial summary from ARC-ISCW. 2005.* Overview of the agricultural natural resources of South Africa. *ARC-ISCW Report No GW/A/2004/13, ARC-Institute for Soil, Climate and Water, Pretoria. http://www.agis.agric.za/agisweb/agis.html*

South Africa is not well-endowed with arable land. Arable land covers only 26,4% (32,4 million ha) of the total areas of South Africa. This shows potential and not actual cultivated land (see paragraph 4.3 for more detail). More important is that half of this is classified as marginal-potential arable land (13,4%). The very high-potential land is negligibly small (only 0,.0027 million ha), as only 1,9 million ha is regarded as high-potential arable land.

*Table 12: Distribution of land capability relative to the rest of South Africa*

| | EC | FS | GT | KZN | LIM | MP | NC | NW | WC | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 Very high-potential arable land | 0,0% | 0,0% | 0,0% | 0,0% | 0,0% | 0,0% | 0,0% | 0,0% | 0,0% | 0,0% |
| 2 High-potential arable land | 0,1% | 0,0% | 0,3% | 0,3% | 0,1% | 0,7% | 0,0% | 0,0% | 0,0% | 1,5% |
| 3 Moderate-potential arable land | 1,0% | 1,8% | 0,6% | 2,2% | 2,0% | 1,7% | 0,0% | 1,4% | 0,7% | 11,4% |
| 4 Marginal-potential arable land | 1,5% | 4,4% | 0,1% | 0,9% | 2,2% | 1,3% | 0,0% | 2,3% | 0,7% | 13,4% |
| Total arable land | 2,5% | 6,2% | 1,0% | 3,5% | 4,3% | 3,7% | 0,0% | 3,7% | 1,5% | 26,4% |
| 5 Non-arable, moderate-potential grazing land | 1,4% | 2,9% | 0,1% | 0,2% | 2,8% | 0,3% | 1,1% | 1,9% | 0,4% | 11,1% |
| 6 Non-arable, low- to moderate-potential grazing land | 3,8% | 0,7% | 0,3% | 2,4% | 1,7% | 1,6% | 1,2% | 1,3% | 1,9% | 14,8% |
| 7 Non-arable, low-potential grazing land | 3,9% | 0,5% | 0,0% | 1,1% | 0,5% | 0,3% | 25,5% | 1,3% | 4,4% | 37,4% |
| Total grazing land | 9,1% | 4,0% | 0,3% | 3,7% | 4,9% | 2,2% | 27,8% | 4,6% | 6,7% | 63,3% |
| 8 Wilderness | 2,2% | 0,3% | 0,1% | 0,4% | 1,1% | 0,3% | 3,0% | 0,3% | 2,5% | 10,1% |
| 9 Water | 0,0% | 0,1% | 0,0% | 0,1% | 0,0% | 0,0% | 0,0% | 0,0% | 0,0% | 0,2% |
| Total water and wilderness | 2,2% | 0,4% | 0,1% | 0,4% | 1,1% | 0,3% | 3,0% | 0,3% | 2,5% | 10,3% |
| Grand Total | 13,8% | 10,6% | 1,5% | 7,6% | 10,2% | 6,2% | 30,8% | 8,6% | 10,7% | 100,0% |

*Source: MapAble spatial summary from ARC-ISCW. 2005.* Overview of the agricultural natural resources of South Africa. *ARC-ISCW Report No GW/A/2004/13, ARC-Institute for Soil, Climate and Water, Pretoria. http://www.agis.agric.za/agisweb/agis.html*

The Free State has the largest area of arable land in South Africa (7,6 million ha) or 6,2%, followed by Limpopo with 4,3%, Mpumalanga with 3,7% ha and KwaZulu-Natal with 3,5% measured as percentage of the total arable are in South Africa. The Northern Cape has no arable land, Gauteng only 1,0% and the Western Cape only 1,5% (0,87 million ha). The whole Western Cape has moderate to low arable capabilities.

*Table 13: Land capability and state control+*

| | State control | | Non-state | | Total SA | |
|---|---|---|---|---|---|---|
| 1. Very high-potential arable land | 2 733 | 100,0% | 0 | 0,0% | 2 733 | 100,0% |
| 2. High-potential arable land | 430 672 | 22,9% | 1 448 504 | 77,1% | 1 879 176 | 100,0% |
| 3. Moderate-potential arable land | 4 411 683 | 31,4% | 9 622 954 | 68,6% | 14 034 637 | 100,0% |
| 4. Marginal-potential arable land | 4 990 434 | 30,3% | 11 492 850 | 69,7% | 16 483 284 | 100,0% |
| Total arable land | 9 835 522 | 30,4% | 22 564 308 | 69,6% | 32 399 830 | 100,0% |
| 5. Non-arable, moderate-potential grazing land | 2 911 965 | 21,3% | 10 748 791 | 78,7% | 13 660 756 | 100,0% |
| 6. Non-arable, low- to moderate-potential grazing land | 5 995 243 | 33,0% | 12 188 116 | 67,0% | 18 183 359 | 100,0% |
| 7. Non-arable, low-potential grazing land | 6 446 088 | 14,0% | 39 478 696 | 86,0% | 45 924 784 | 100,0% |
| 8. Wilderness | 4 012 891 | 32,4% | 8 391 631 | 67,6% | 12 404 522 | 100,0% |
| 9. Water | 221 535 | 89,7% | 25 411 | 10,3% | 246 946 | 100,0% |
| | 19 587 722 | 21,7% | 70 832 645 | 78,3% | 90 420 367 | 100,0% |
| | 29 423 244 | 24,0% | 93 396 953 | 76,0% | 122 820 197 | 100,0% |

*Source: MapAble spatial summary from ARC-ISCW. 2005.* Overview of the agricultural natural resources of South Africa. *ARC-ISCW Report No GW/A/2004/13, ARC-Institute for Soil, Climate and Water, Pretoria.* http://www.agis.agric.za/agisweb/agis.html

There are not many inferences that can be drawn from a state versus non-state division of arable land. There is proportionally more arable land under state control (30,4%) than the extent of general land under state control (24,1%). At a national scale it is not much but given the geographical distribution of state land and land capability, one should expect the state to control substantial portions of Limpopo. Mpumalanga and KwaZulu-Natal.[24]

### 4.1.2 Irrigated land

Irrigation in southern Africa plays a disproportionately important role because it is two or three times more productive than rain-fed agriculture, and because irrigation also constitutes roughly 70% of the region's water demand.[25]The map below shows the extent of irrigated land in South Africa. There are 1,8 million ha under irrigation. Irrigation is not limited to any specific area, and its presence is a function of water availability. Irrigation lends itself to farming at virtually any scale ranging from small-scale farmers in the Limpopo valley to mega farmers along the major river systems in South Africa.

*Table 14: The extent of irrigated land*

| Irrigation status | Area (ha) | % of total |
|---|---|---|
| Cultivated: permanent - commercial irrigated | 423 357 | 21,49% |
| Cultivated: permanent - commercial Sugar cane | 459 896 | 23,34% |
| Cultivated: temporary - commercial irrigated | 1 087 083 | 55,17% |
| Totals | 1 970 336 | 100,00% |

*ARC-ISCW, 2005.* Overview of the agricultural natural resources of South Africa. *ARC-ISCW Report No GW/A/2004/13, ARC-Institute for Soil, Climate and Water, Pretoria.* http://www.agis.agric.za/agisweb/agis.html

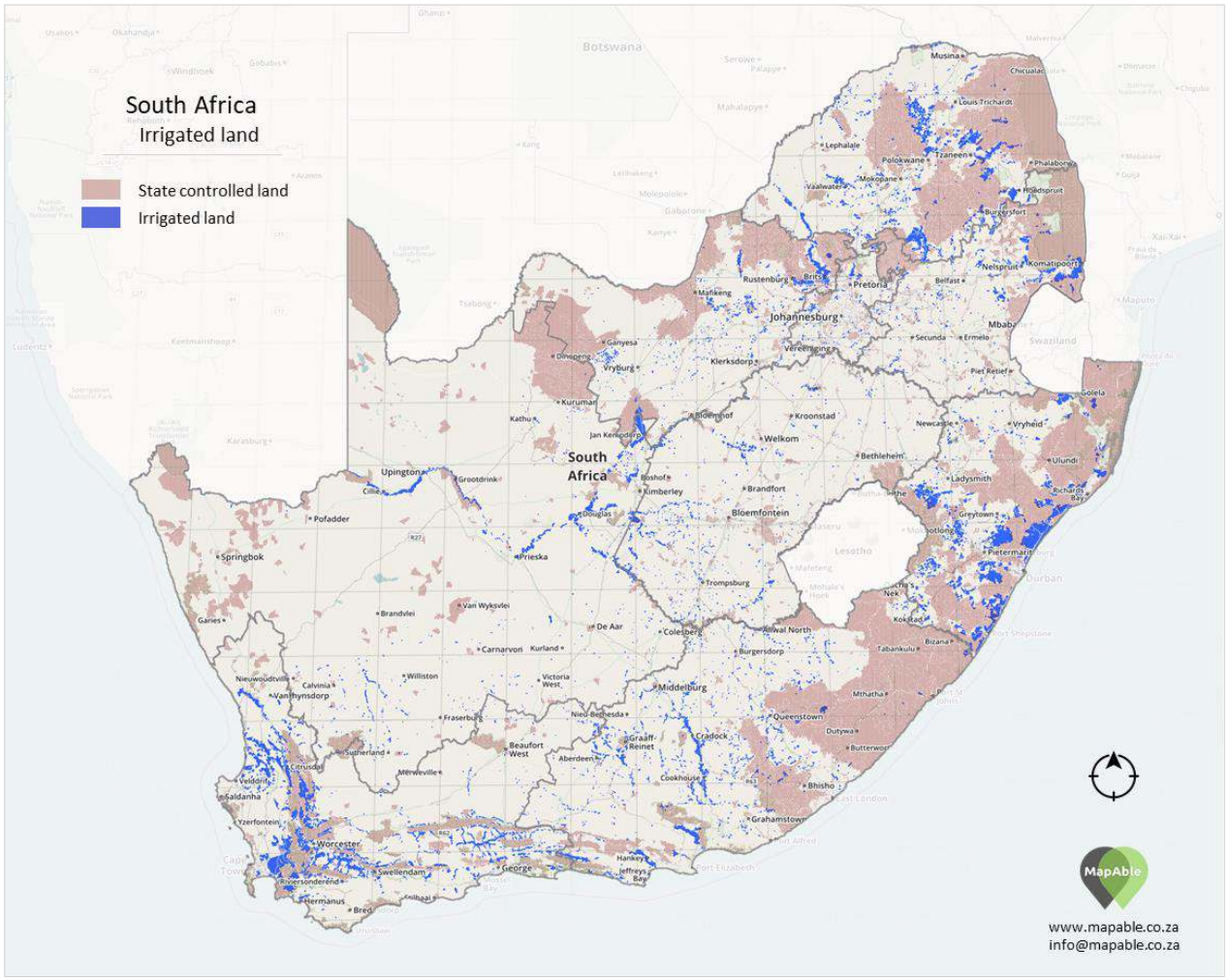
The commercially cultivated land has declined by 8,6% in the area under cultivation between 1990 and 2014. However, in the same period cultivation through pivot irrigation has increased by 221,2%. Although land under irrigation still only covers 0,6% of South Africa's area, it is increasing in significance. The impact of access to sufficient water resources is well-illustrated in the extent of irrigation in the Northern Cape and specifically in the Boland with its vines and orchards cultivated on land unsuitable for any dryland cultivation. This highlights the vulnerability of agriculture to water shortages.

*Table 15: The extent of cultivation under pivot irrigation*

| | 1990 | 2014 | % change | % of SA |
|---|---|---|---|---|
| Cultivated pivot | 238 483 | 765 991 | 221,2% | 0,6% |

[24] Distributions per province were not calculated due to time constraints.
[25] J.B. Steven. 2006. *Adoption of irrigation scheduling methods in South Africa* (p. 2). University of Pretoria.

*Map 8: Irrigated land*




*Source: ARC-ISCW. 2005.* Overview of the agricultural natural resources of South Africa. *ARC-ISCW Report No GW/A/2004/13, ARC-Institute for Soil, Climate and Water, Pretoria.* [http://www.agis.agric.za/agisweb/agis.html](http://www.agis.agric.za/agisweb/agis.html)

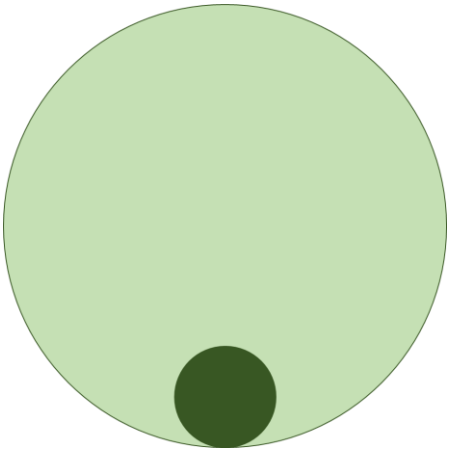
## 4.2 The grazing capacity

Gugile Nkwinti, the former Minister of Rural Development and Land Reform, told Reuters that Government was planning to set a range of limits on farmland ownership – from a 1 000 ha (2 470 acre) "small-scale" farm, up to at 12 000 hectares, the largest allowed.[26] This was part of the municipal pre-election campaign in 2016. However, the size of farms has been an issue for many decades. Where the Minister is implying downsizing farmland, the Subdivision of Agricultural Land Act, 1970 (Act No 70 of 1970) regulated the subdivision of land, and no agricultural land could be subdivided without the consent of the Minister. The aim was to protect farmland against subdivision into "sub-economical units", amongst other objectives.

Nothing describes the large variations in agricultural potential better than a map of the grazing capacity in South Africa. Grazing capacity is measured in animal units (AU).[27] Grazing capacity varies between less than 4 ha/AU to more than 100 ha/AU. The map shows clearly how climate impacts on grazing capacity. In the previous section, reference was made to non-arable land used for grazing purposes. The arable land and urban footprint are shown on the next map as "transformed rangeland".

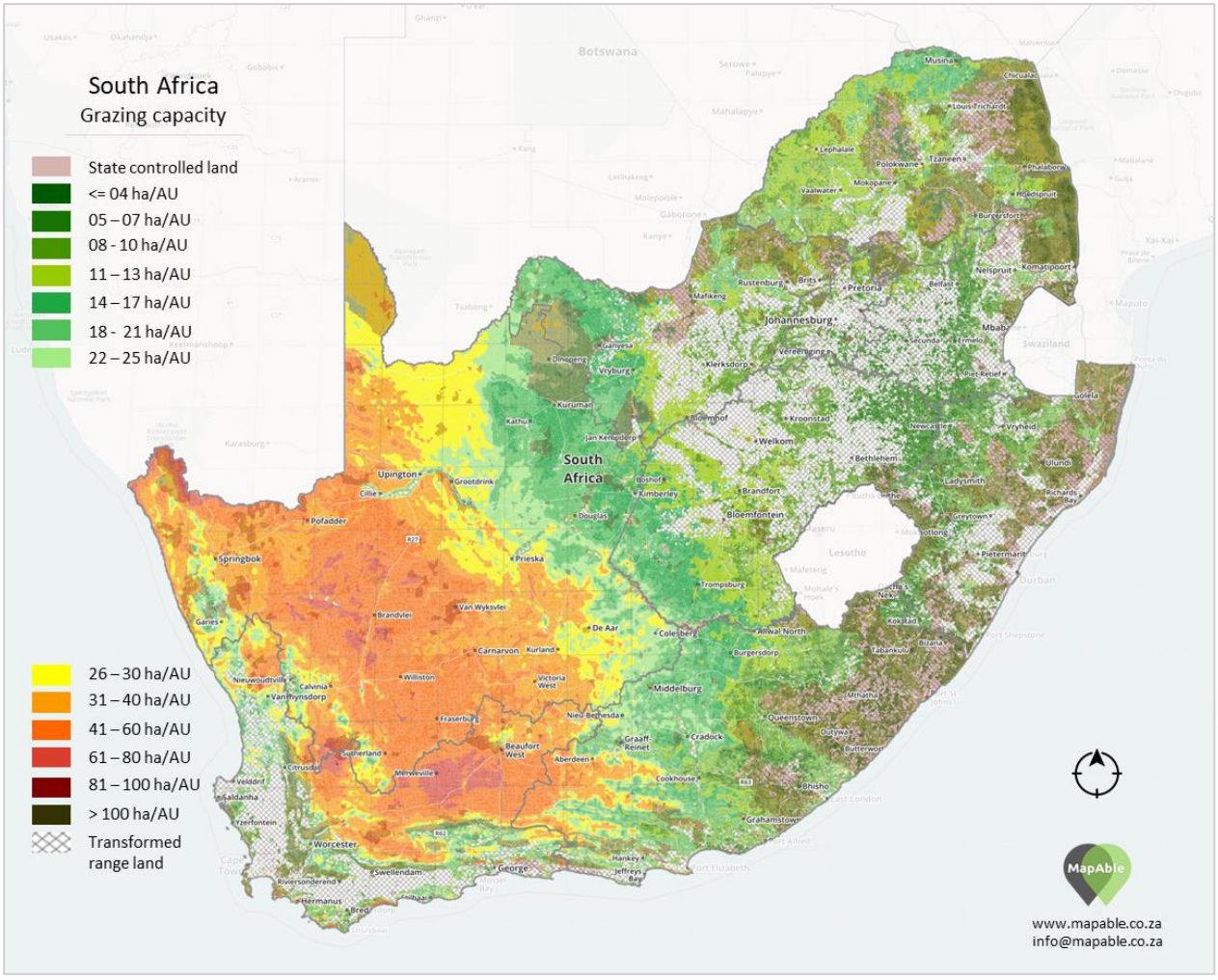
[26] E. Stoddard. 21 May 2016. *South Africa to limit farm sizes to speed land redistribution*. Reuters World News.
[27] The animal unit (AU) is a standard unit used in calculating the relative grazing impact of different kinds and classes of livestock. One animal unit is defined as a 450 kg beef cow with or without a nursing calf, with a daily dry matter forage requirement of 12 kg.

*Figure 2: The implications of grazing capacity*



The figure illustrates how grazing capacity affects land requirements. The small circle shows the land required at a grazing capacity of 4 ha/AU. This is typically the capacity in some areas of the eastern Highveld of Mpumalanga and KwaZulu-Natal. The bigger circle shows the land that will be required to farm the equivalent animal units at 100 ha/AU. This is typical of the area around Merweville between Beaufort West and Laingsburg.

*Map 9: Grazing capacity*




*Source: ARC*[*http://www.agis.agric.za*](http://www.agis.agric.za)

Again, as is the case with arable land, land with significant grazing capacity is limited. The table below shows that less than 20% of South Africa has a grazing capacity better that 10 ha/AU. This implies 2 000 ha to farm 200 cattle. 53% of South Africa has a

grazing capacity of less than 25 ha/AU, which implies a farm of 5 000 ha as in our example. From any perspective, farms of 2 000 ha and 5 000 ha are not small pieces of land.

*Table 16: Distribution of grazing land capacity per province (ha)*

| Row Labels | EC | FS | GT | KZN | LIM | MP | NC | NW | WC | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| ≤ 4 ha/AU | 117,3 | 60,3 | 1,5 | 223,6 | 4,5 | 71,2 | 6,2 | 2,4 | 13,4 | 500,3 |
| 5–7 ha/AU | 2 264,7 | 1 220,7 | 265,8 | 2 510,4 | 298,7 | 2 153,9 | 25,6 | 140,6 | 104,7 | 8 985,0 |
| 8–10 ha/AU | 2 744,2 | 2 150,5 | 482,9 | 1 904,6 | 2 809,3 | 1 574,8 | 80,4 | 1 693,9 | 264,1 | 13 704,7 |
| 11–13 ha/AU | 2 128,6 | 2 483,0 | 108,1 | 787,2 | 4 638,2 | 629,6 | 218,8 | 2 146,3 | 440,4 | 13 580,3 |
| 14–17 ha/AU | 2 465,0 | 1 704,0 | 8,3 | 463,4 | 2 218,9 | 248,1 | 2 059,5 | 2 128,3 | 767,7 | 12 063,2 |
| 18–21 ha/AU | 1 986,5 | 549,5 | 2,2 | 220,2 | 282,2 | 81,6 | 3 606,3 | 1 289,6 | 938,4 | 8 956,6 |
| 22–25 ha/AU | 1 082,4 | 133,8 | 0,5 | 108,4 | 41,9 | 29,4 | 4 378,4 | 402,9 | 1 055,0 | 7 232,7 |
| 26–30 ha/AU | 694,1 | 35,9 | 0,1 | 60,6 | 11,8 | 15,1 | 6 913,9 | 35,3 | 1 189,5 | 8 956,3 |
| 31–40 ha/AU | 822,3 | 9,3 | 0,0 | 49,4 | 6,8 | 10,8 | 9 034,2 | 0,1 | 2 114,6 | 12 047,5 |
| 41–60 ha/AU | 457,4 | 1,7 | 0,0 | 36,1 | 4,2 | 8,4 | 10 182,3 | 0,0 | 2 514,6 | 13 204,6 |
| 61–80 ha/AU | 14,7 | 0,0 | 0,0 | 11,9 | 3,0 | 4,8 | 964,6 | 0,0 | 807,9 | 1 806,9 |
| 81–100 ha/AU | 6,1 | 0,0 | 0,0 | 3,6 | 0,9 | 6,2 | 1,1 | 0,0 | 4,0 | 21,8 |
| More than 100 ha/AU | 0,3 | 0,0 | 0,0 | 0,1 | 0,0 | 0,3 | 0,0 | 0,0 | 0,1 | 0,8 |
| Transformed rangeland | 2 133,9 | 4 650,0 | 949,0 | 2 956,3 | 2 244,4 | 2 816,1 | 313,9 | 2 676,6 | 2 922,4 | 21 662,7 |
| Grand Total | 16 917,5 | 12 998,6 | 1 818,2 | 9 335,9 | 12 564,8 | 7 650,2 | 37 785,3 | 10 516,0 | 13 136,7 | 122 723,3 |

*Source: Cross-tabulated by MapAble from ARC. http://www.agis.agric.za*

## 4.3 The extent of cultivated land

Up to now, the report concerned itself with agricultural potential. The report dealt with land capability regarding arable and non-arable land and then with grazing capacity. The question, however, is to what extent is the potential utilised. Although land capability discounts typography, for example, it is clear in its calculations, however, that physical features such as topography and drainage systems (river, pans wetlands, etc.) do have a direct bearing on the extent to which land is cultivated. It is significant that land capability data indicates that 32 399 830 ha (26,4% of South Africa) are arable, but land cover data (2014) shows that only 14 million ha (11,4%) is under cultivation. Whether this is good or bad is not possible to say, and one needs to assess the situation in much more detail to come to any more specific conclusions.

This section deals with the land cover in the following categories:

1. Commercially cultivated land;
2. Subsistence farming; and
3. Orchards, vines and sugar cane.

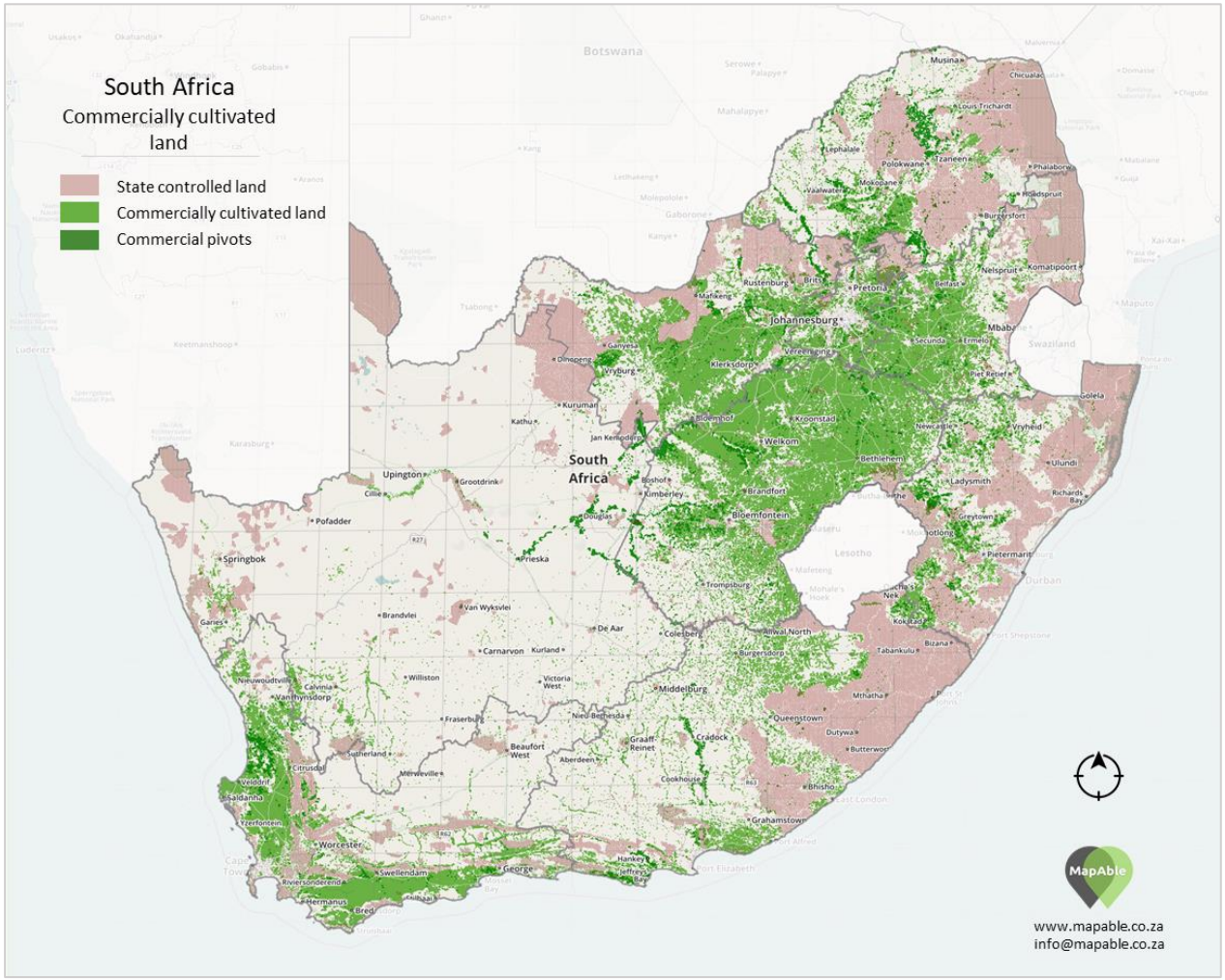
The following datasets supplement the next three maps.

*Table 17: The extent of cultivated land in South Africa (ha)*

| | EC | FS | GT | KZN | LIM | MP | NC | NW | WC | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Cultivated commercial fields | 488 522 | 3 603 802 | 380 337 | 401 769 | 570 040 | 1 089 597 | 138 141 | 1 865 519 | 1 647 013 | 10 184 742 |
| Cultivated commercial pivot | 52 203 | 163 103 | 21 521 | 61 596 | 167 734 | 46 586 | 93 459 | 85 214 | 74 305 | 765 719 |
| Cultivated orchard and vines | 47 758 | 3 438 | 1 687 | 24 767 | 109 118 | 42 890 | 40 073 | 5 328 | 262 850 | 537 910 |
| Sugar cane | 0 | 0 | 0 | 408 250 | 0 | 61 779 | 0 | 0 | 0 | 470 028 |
| Subsistence farming | 767 939 | 30 328 | 1 200 | 533 677 | 404 765 | 66 849 | 3 951 | 233 358 | 726 | 2 042 794 |
| Total | 1 356 422 | 3 800 671 | 404 744 | 1 430 059 | 1 251 657 | 1 307 702 | 275 625 | 2 189 419 | 1 984 895 | 14 001 193 |

The Free State has the most cultivated land, followed by North West. The Eastern Cape, Limpopo and KwaZulu-Natal have the most subsistence farms and substantially less commercially cultivated fields. Northern Cape has the least, mainly due to climatic conditions, followed by Gauteng, where almost 20% of its area is covered by its urban footprint.

*Map 10: Commercially-cultivated land*




*Source: Land-cover dataset generated in-house by Geo Terra Image (Pretoria) in January 2015, based on primarily multi-date Landsat 8 imagery acquired between April 2013 and March 2014. Released by the Department of Environmental Affairs.*
*https://egis.environment.gov.za/gis_data_downloads*

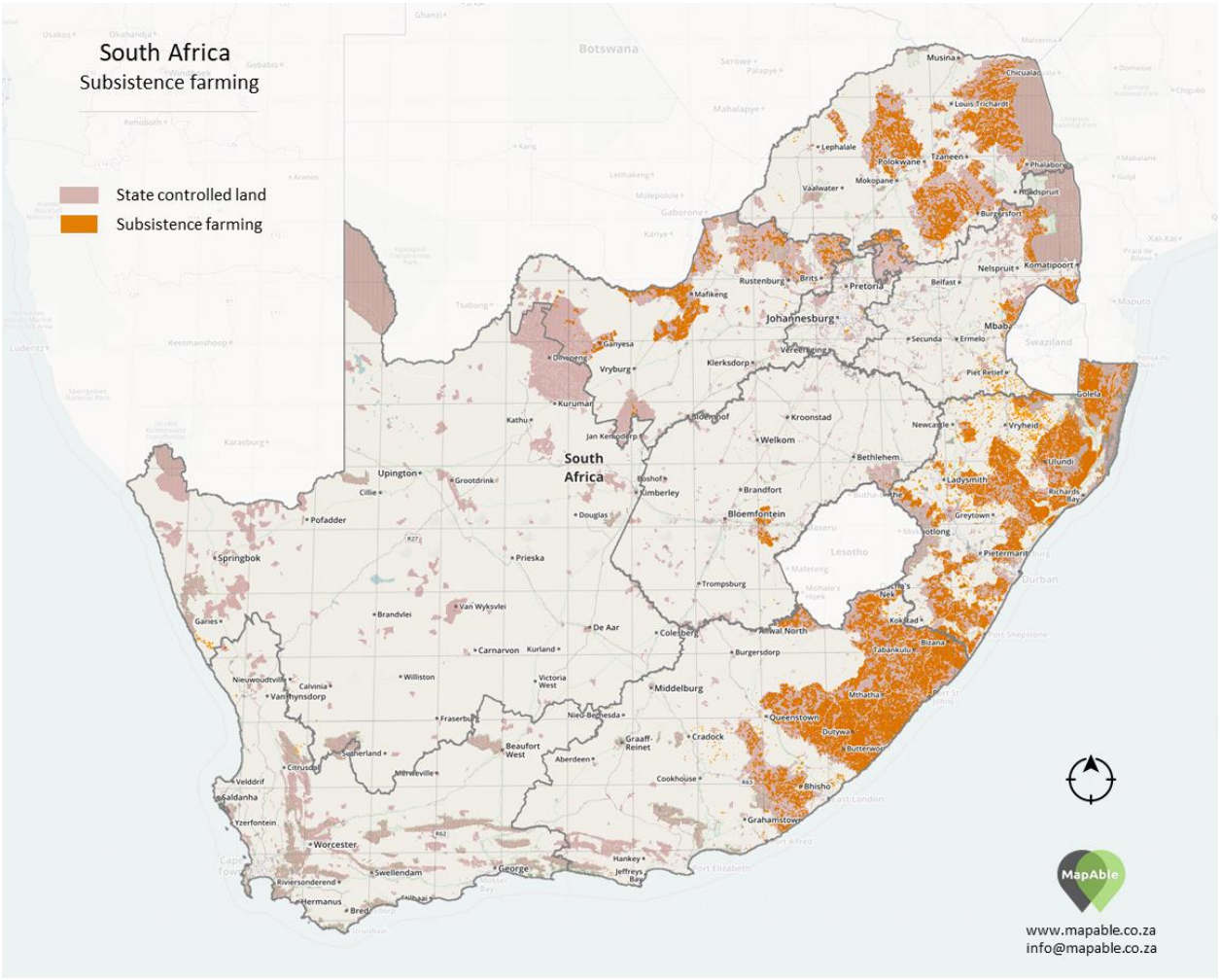
How intensively a province is cultivated is shown in the next table, which indicates the percentage of a province under the different types of land cultivations. The figures indicate the percentage of the total area of a province.

*Table 18: Extent of a province under cultivation (%)*

| | EC | FS | GT | KZN | LIM | MP | NC | NW | WC | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Cultivated commercial fields | 2,89% | 27,7% | 20,92% | 4,25% | 4,53% | 14,23% | 0,37% | 17,73% | 12,52% | 8,29% |
| Cultivated commercial pivot | 0,31% | 1,3% | 1,18% | 0,65% | 1,33% | 0,61% | 0,25% | 0,81% | 0,56% | 0,62% |
| Cultivated orchard and vines | 0,28% | 0,0% | 0,09% | 0,26% | 0,87% | 0,56% | 0,11% | 0,05% | 2,00% | 0,44% |
| Sugar cane | 0,00% | 0,0% | 0,00% | 4,32% | 0,00% | 0,81% | 0,00% | 0,00% | 0,00% | 0,38% |
| Subsistence farming | 4,54% | 0,2% | 0,07% | 5,65% | 3,22% | 0,87% | 0,01% | 2,22% | 0,01% | 1,67% |
| Total | 8,01% | 29,2% | 22,26% | 15,14% | 9,95% | 17,08% | 0,73% | 20,80% | 15,09% | 11,40% |

Tables 17 and 18 show that subsistence farming is important and accounts for the bulk of the cultivated land in KwaZulu-Natal and Eastern Cape, with substantial cover in Limpopo and Mpumalanga. It is worth noting that subsistence farming occurs predominantly on state-controlled land. The next map shows the distribution of subsistence farming in South Africa.

*Map 11: Subsistence farming*




*Source: Land-cover dataset generated in-house by Geo Terra Image January 2015. Released by the Department of Environmental Affairs.* *https://egis.environment.gov.za/gis_data_downloads*

Orchards, vines and sugar cane rely on irrigation. Regarding total land cover, these activities are small, but by their very nature tend to be very intensive forms of cultivation with strong links to technology, as well as labour intensive. These types of cultivation require less land due to its intensive nature. The ability to use less favourable land often opens areas of low general potential for cultivation. The Western Cape is a good example of where arable land is generally of very low quality but access to water and the ability to utilise land with, for example, steep slopes and shallow soils make orchards and vines a good prospect. Much the same applies to sugar cane and the cultivation along the lower Orange River. It is interesting to note that land under orchards and vines exceeds land used for sugar cane cultivation. Map12 below shows the spatial extent of orchards, vines and sugar cane.

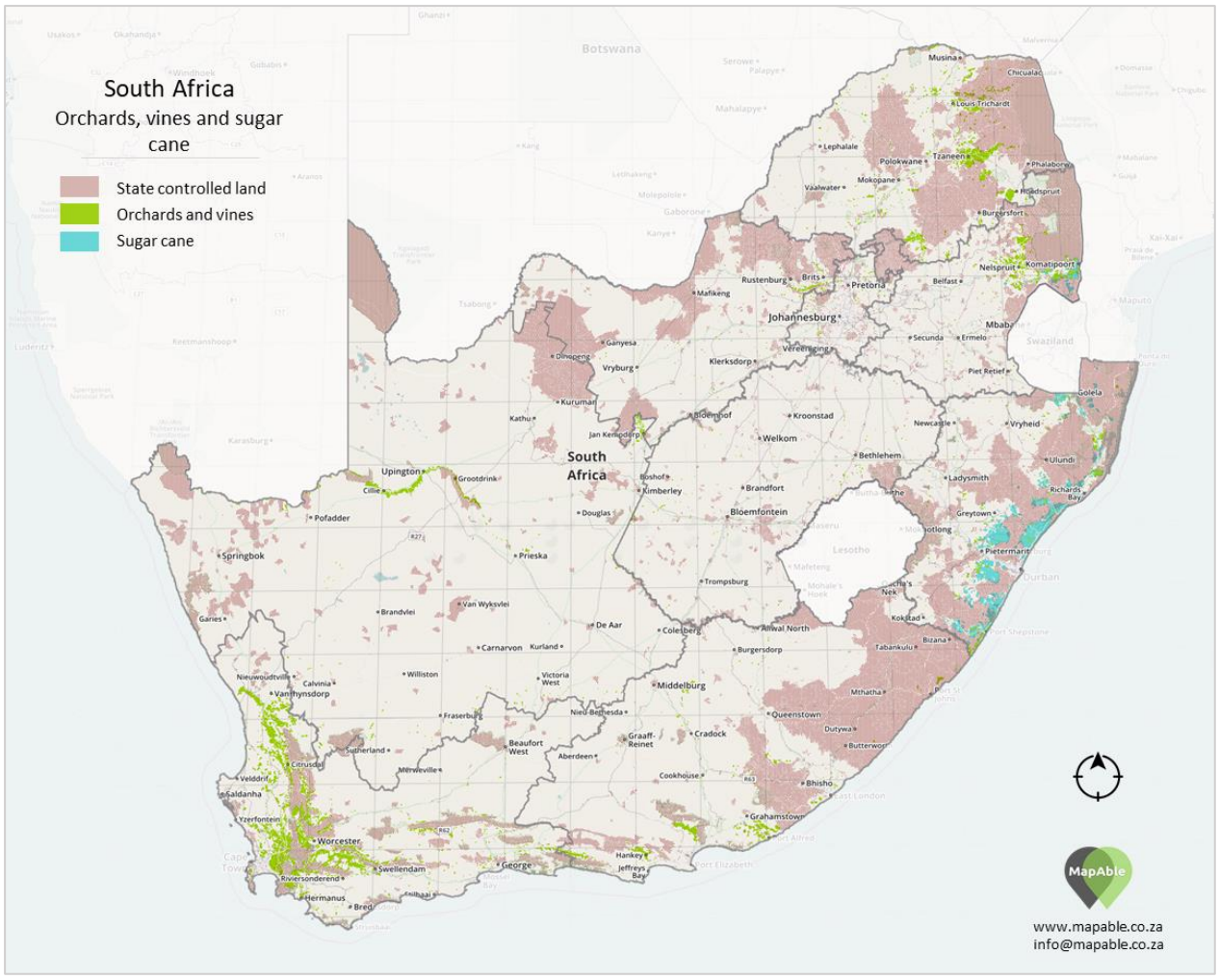
Very clear trends emerge when comparing changes in land cultivation. The next table shows changes between 1990 and 2014 in land cover.

*Table 19: Changes in the agricultural footprint of South Africa 1990 to 2014*

| | EC | FS | GT | KZN | LIM | MP | NC | NW | WC | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Cultivated commercial fields | -10,3% | -5,0% | -5,1% | 4,2% | -20,0% | -14,4% | -18,8% | -13,7% | -3,3% | -8,6% |
| Cultivated commercial pivot | 414,6% | 490,7% | 213,8% | 281,0% | 114,5% | 280,0% | 112,0% | 254,5% | 291,6% | 221,2% |
| Cultivated orchard and vines | -18,2% | 47,7% | 58,4% | 1,8% | 40,2% | 35,6% | 13,4% | 1,0% | 8,9% | 12,6% |
| Sugar cane | 0,0% | 0,0% | 0,0% | 22,9% | 0,0% | 73,0% | 0,0% | 0,0% | 0,0% | 28,1% |
| Subsistence farming | 6,5% | 60,8% | -55,4% | 30,4% | -13,1% | -27,2% | -10,1% | -13,2% | -29,9% | 3,1% |
| Total | 1,6% | -1,1% | -1,6% | 22,5% | -6,2% | -9,4% | 8,5% | -11,0% | 1,0% | -1,5% |

Overall, less land was used for land cultivation in 2014 than in 1990. However, agricultural output continued to grow. Agricultural output increased by 28,9% between 1994 and 2016.[28] There can be any number of reasons for the contraction in the land cultivation footprint, for example, improved technology, switching from cultivation to more extensive forms of agriculture, such as stock or game farming. There were substantial declines across all provinces in commercially-cultivated fields, with the highest percentage recorded in Limpopo. The positive aspect was exceptional growth in pivot irrigation in all provinces. The growth in orchards, vines and sugar cane is consistent with the growth in pivot irrigation that points to a more intensified, specialised type of farming. All the growth sectors are linked and dependent on the availability of water. Subsistence farming declined in most provinces except KwaZulu-Natal, where it shows exceptional growth. The highest growth was, however, in the Free State but from a small base.

*Map 12: Orchards, vines and sugar cane*




*Source: Land-cover dataset generated in-house by Geo Terra Image (Pretoria) in January 2015, based on primarily multi-date Landsat 8 imagery acquired between April 2013 and March 2014. Released by the Department of Environmental Affairs.*
*https://egis.environment.gov.za/gis_data_downloads*

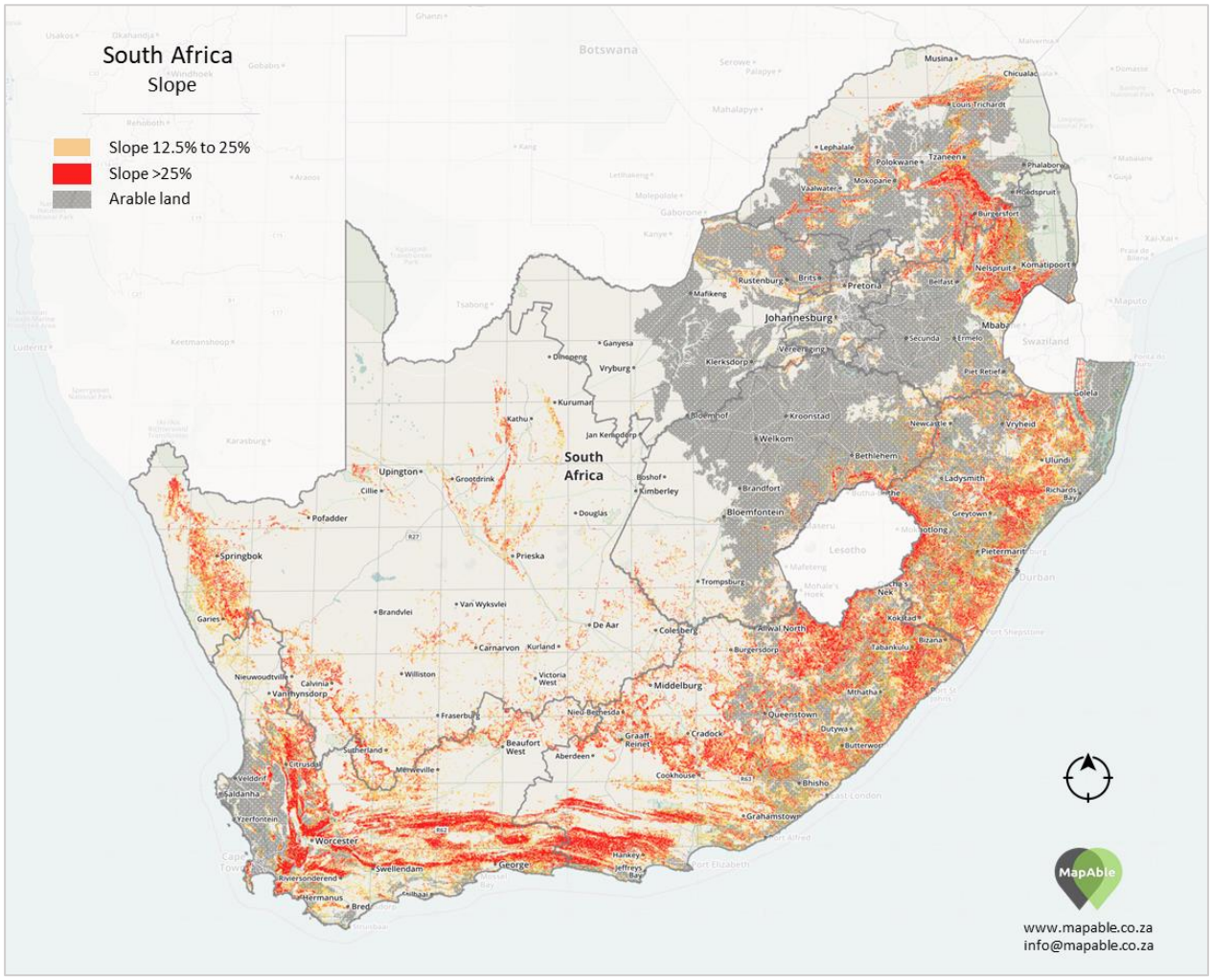
The actual coverage of land cultivation was mentioned in the introductory paragraph to this section. To conclude this section, it is necessary to put this statement in context. Firstly, land capability is a high-level indication of agricultural potential. The main feature impacting on the ability to maximise land cultivation is the land features. The two most important elements are topography and drainage systems. Topography and drainage also relate to soil conditions and the underlying geological features of an area. To these constraints that are caused by land features one must also add competing land uses, for example mining, settlement, infrastructure networks and conservation.

The next map shows the topographical structure of South Africa in relation to arable land. The plateaux of the interior constitute the biggest part, but the availability of arable land is at this level interrupted by Magaliesberg, the Witwatersrand and the

[28] Quantec. 1993-2016. *Regional indicators Regional Output and GVA at basic prices by industry and 2011 local municipal/ward-based metro region level*. www.quantec.co.za

Vredefort Dome. Also, as one approaches the escarpment in Mpumalanga and the Free State, a more broken landscape starts to impact on the usability of arable potential. These patterns repeat on the Polokwane plateau, the Lowveld and the KwaZulu-Natal Midlands. The rest of the arable land exists as a narrow band of coastal plains between the escarpment and the sea.

*Map 13: Slope as a constraint on land cultivation and development*




*Source: MapAble*

Figure 3 below shows areas with relatively good arable potential. The first extract (Free State and North West), has fewer natural constraints, but other uses are competing for the same land area. The second extract (Eastern Cape) shows how severe topography can restrict land cultivation. Apart from physical constraints, access to available land also becomes an issue.

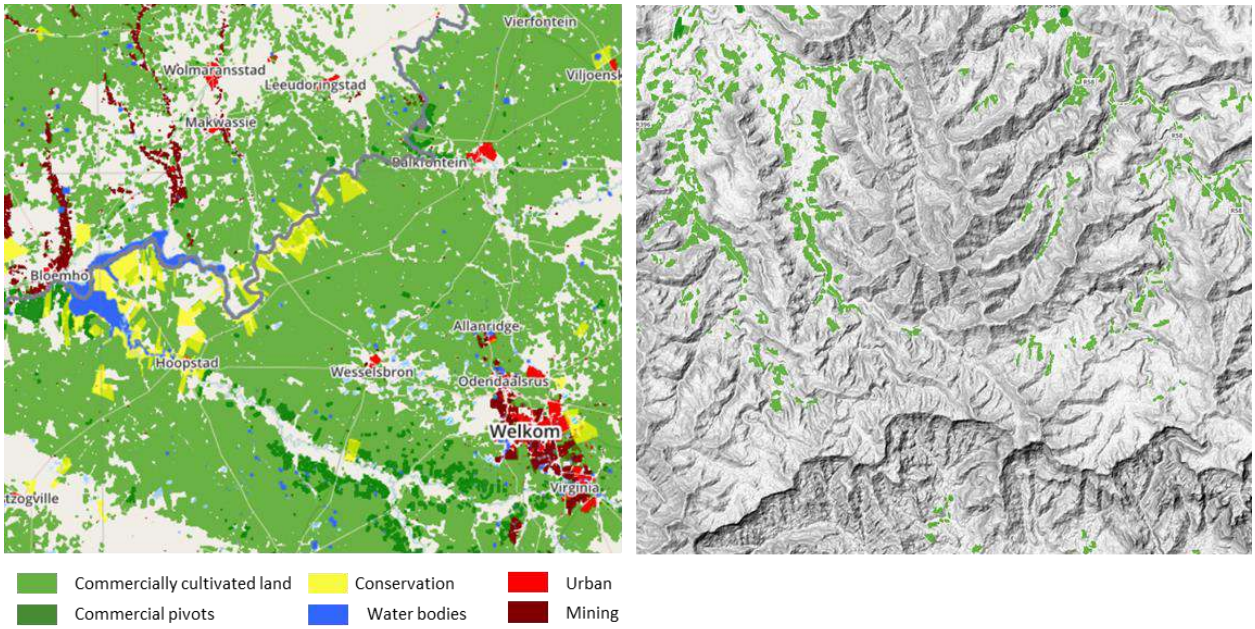
*Table 20: Cultivated land density for randomly selected areas*

| Area selected | Gross area | Cultivated area | Coverage |
|---|---|---|---|
| Welkom, Bothaville, Klerksdorp (Free State and North West) | 2 776 014 | 1 292 161 | 46,5% |
| Barkley East, Dordrecht (Eastern Cape) | 136 262 | 8 642 | 6,3% |
| Lindley, Senekal (Eastern Free State) | 1 018 652 | 417627 | 41,0% |
| Cultivated land density Springbok flats | 121 720 | 57012 | 46,8% |
| Vryheid (KwaZulu-Natal) | 80 796 | 11128 | 13,8% |
| Bethal, Morgenzon (Mpumalanga) | 232 411 | 74718 | 32,1% |
| Delareyville, Schweizer-Reneke, Wolmaransstad (Northwest) | 242 706 | 160 090 | 66,0% |

*Source: Calculated by MapAble from land cover data.*

The table shows through randomly-selected examples how the extent of land cultivation can differ, although land capability is relatively the same for all these areas. Although the focus is on the extent of land cultivation, it does not imply that land not cultivated is not used. High-potential arable land also correlates with better grazing capacity, and constraints for cultivation becomes opportunities for intensive stock farming.

*Figure 3: Impact of competing factors and natural features on cultivated land*




*Source: Extracts from land-cover dataset Geo Terra Image. Released by the Department of Environmental Affairs.*
*https://egis.environment.gov.za/gis_data_downloads*

# 5 Factors contributing to a differential land demand

The demand for land is affected by many factors. The natural consequence of the development process is that people move out of primary production (agriculture, forestry, fishery and mining) into secondary- and tertiary-sector employment. The result is urbanisation, which explains the statement about where land claims do occur. Professor Ben Cousins of the Institute for Poverty, Land and Agrarian Studies at the University of the Western Cape wrote that "around 87% of land claims lodged by the cut-off date in 1998 were to urban properties, and in most cases, claimants were offered (and accepted) a standard cash settlement, because restoration was clearly impracticable. But the great majority of rural claims, involving a great many more people since most are group claims, have opted for restoration."[29]

The demand for land in the urban environment is understandable. Land in the urban context is subject to the forces of land economics. Land as scare resource is expensive and in the competition for land, land goes the use that can extract the highest value per square meter. This causes smaller land parcels, and results in new arrivals in the urban environment either living in high densities to maximise the value of land or moving further away to more affordable land. This explains to an extent the high levels of overcrowding in inner-cities or the growth of low-income settlements on the urban periphery. All things being equal, it makes economic sense.

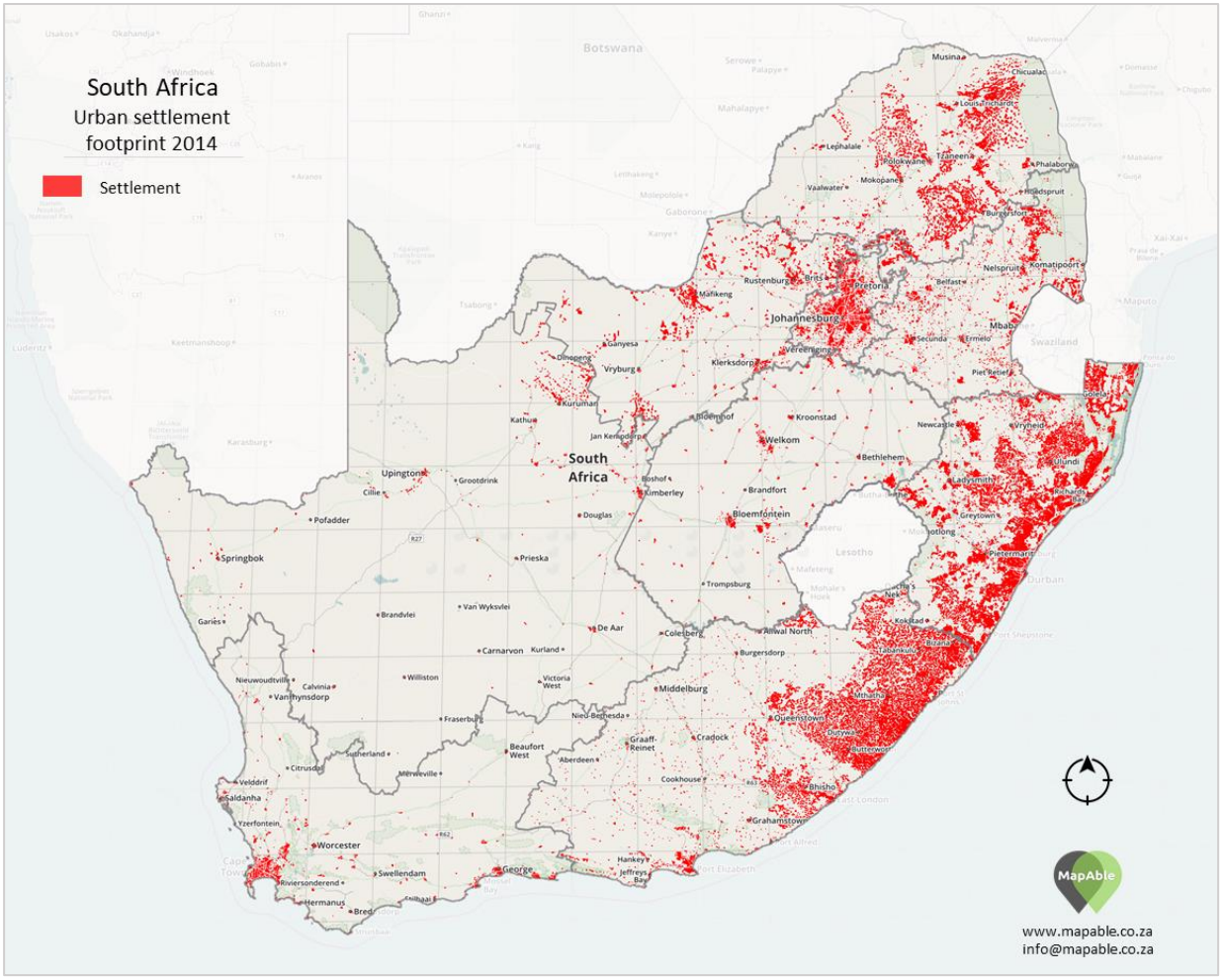
South Africa's definition of urban is rather narrow and excludes tribal settlements (or settlement on tribal land from the urban category). Notwithstanding this narrower definition, South Africa is already more than 65% urbanised.[30] Based on the concepts of urban and rural (always debatable), South African perceptions of urbanisation bring pictures of people streaming into the major cities to mind. This is particularly true of our metropolitan areas. However, there is evidence that population shifts are geographically much wider. This section will explore settlement and movement (migration) from a spatial perspective.

[29] B. Cousins. 9 March 2018. *Land debate is clouded by misrepresentation and lack of data.* News24 https://www.news24.com/Analysis/land-debate-is-clouded-by-misrepresentation-and-lack-of-data-20180309
[30] https://www.statista.com/statistics/455931/urbanization-in-south-africa/

## 5.1 Settlement patterns

As indicated above, the distinction between urban and rural is not always clear cut. The map below shows where people live in South Africa.

*Map 14: Settlement footprint 2014*



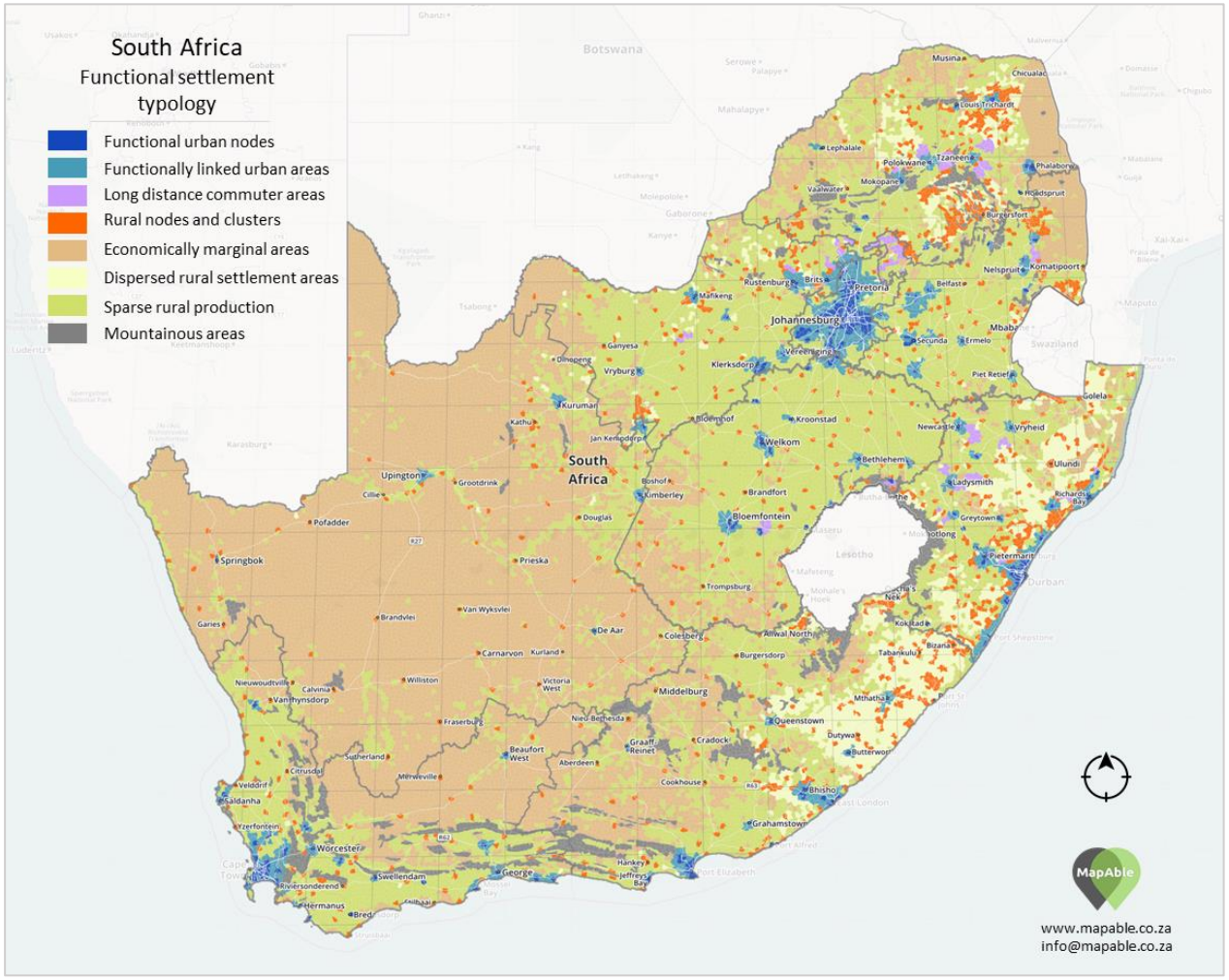

*Source: Land-cover dataset generated in-house by Geo Terra Image (Pretoria) in January 2015, based on primarily multi-date Landsat 8 imagery acquired between April 2013 and March 2014 – Released by the Department of Environmental Affairs*
*https://egis.environment.gov.za/gis_data_downloads*

The CSIR developed a settlement typology based on a functional classification of settlements and activities in South Africa. This moves away from a narrower binary urban-rural approach. The following areas were identified:

1. Functional urban nodes which are areas regarded as fully urban and meet the general criteria for urban areas.
2. Functionally-linked urban areas are areas on the periphery of the functional urban areas and are in terms of activities and character depended on the adjacent functional urban area.
3. Long-distance commuter areas are displaced areas, removed from the urban functional areas, but still maintain strong economic ties with the functional urban areas. Although rural, they depend economically on the urban areas.
4. Rural nodes and clusters are concentrations that are taking on an urban character, and one must assume that inhabitants are depended on the secondary and tertiary sectors for their livelihoods, rather than primary sector employment. These areas are either small service towns or larger and denser population in traditional areas.
5. Sparse rural production largely coincides with areas under cultivation (commercial farming areas).
6. Dispersed rural settlement areas are the areas between tribal villages in the ex-homeland areas.
7. Economically-marginal and protected areas are either part of the larger national parks or the extensive grazing areas.
8. Mountainous areas are uninhabitable.

The next map shows the distribution of these areas.

*Map 15: Functional settlement typology*




*Source: CSIR. 2010.* Built Environment. Rural Typology.

The next table shows the population per province for these areas.

*Table 21: Population per functional area 2011*

| | EC | FS | GT | KZN | LIM | MP | NC | NW | WC | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Dispersed rural settlement areas | 2 052 191 | 3 060 | 4 639 | 1 718 830 | 920 339 | 79 129 | 277 237 | 41 162 | 18 828 | 5 115 415 |
| Economically-marginal and protected area | 35 518 | 15 007 | 109 | 52 809 | 28 842 | 11 034 | 15 191 | 60 391 | 31 418 | 250 319 |
| Functional urban nodes | 1 732 183 | 1 453 502 | 10 654 079 | 3 868 303 | 602 302 | 1 066 151 | 687 216 | 356 512 | 4 599 161 | 25 019 409 |
| Functionally-linked urban areas | 742 509 | 193 050 | 1 417 468 | 1 544 787 | 465 068 | 302 824 | 977 744 | 137 103 | 399 672 | 6 180 225 |
| Long-distance commuter areas | 0 | 212 844 | 59 977 | 777 208 | 682 362 | 851 790 | 149 775 | 6 374 | 0 | 2 740 330 |
| Mountainous areas | 16 848 | 4 232 | 0 | 6 138 | 24 598 | 6 533 | 12 791 | 1 355 | 50 347 | 122 842 |
| Rural nodes and clusters | 1 644 818 | 729 664 | 43 740 | 1 806 220 | 2 334 200 | 1 411 624 | 978 694 | 412 370 | 435 230 | 9 796 560 |
| Sparse rural production | 332 970 | 166 234 | 46 565 | 479 132 | 342 061 | 306 070 | 408 211 | 125 993 | 277 333 | 2 484 569 |
| Grand Total | 6 557 037 | 2 777 593 | 12 226 577 | 10 253 427 | 5 399 772 | 4 035 155 | 3 506 859 | 1 141 260 | 5 811 989 | 51 709 669 |

When the data in the functional typology is summarised, a picture emerges that shows that a level of functional urbanisation may be substantially higher than in the narrower definition of Statistics South Africa. In the table below, functional urban areas and rural nodes and clusters were added together. The functionally-linked urban areas and long-distance commuter areas were grouped together due to the strong links with functional areas, and the rest were grouped as areas with a predominantly rural focus.

*Table 22: Population distribution in an urban-rural focus based on settlement typologies*

| Urban vs non-urban | EC | FS | GT | KZN | LIM | MP | NC | NW | WC | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Urban focus | 51,5% | 78,6% | 87,5% | 55,3% | 54,4% | 61,4% | 47,5% | 67,4% | 86,6% | 67,3% |
| Functional urban linked and commuter areas | 11,3% | 14,6% | 12,1% | 22,6% | 21,2% | 28,6% | 32,2% | 12,6% | 6,9% | 17,3% |
| Rural focus | 37,2% | 6,8% | 0,4% | 22,0% | 24,4% | 10,0% | 20,3% | 20,1% | 6,5% | 15,4% |
| | 100,0% | 100,0% | 100,0% | 100,0% | 100,0% | 100,0% | 100,0% | 100,0% | 100,0% | 100,0% |

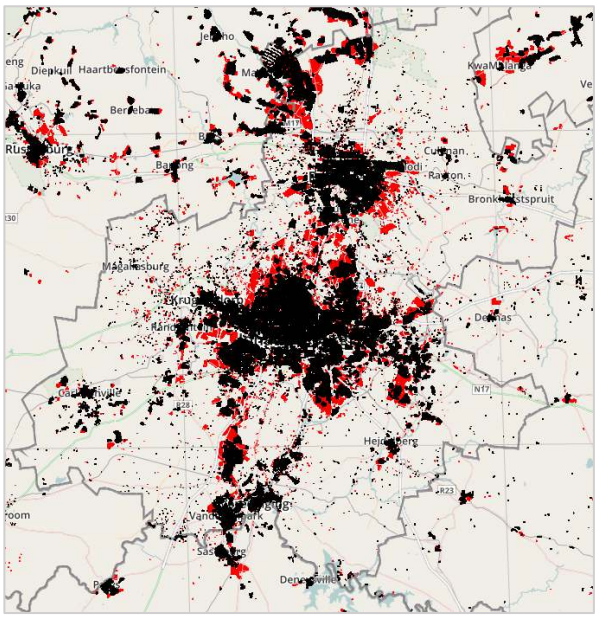
The tables show that the urban focus category corresponds closely with current perceptions and data on urbanisation. It is the second category that emerges as areas that show rapidly-developing urban characteristics. It may be an emerging area that warrants specific attention. However, viewing urban and functional urban areas together shows that levels of urban association are substantially higher than generally accepted. This has a direct impact on land, landownership and the availability of land for development.

The next few maps illustrate the change in the settlement footprint in selected areas. The examples include all eight metropolitan areas, as well as Thohoyandou and Mthatha as examples of major rural centres. The main point illustrated by these maps is that settlement growth is not exclusive to the larger urban centres.

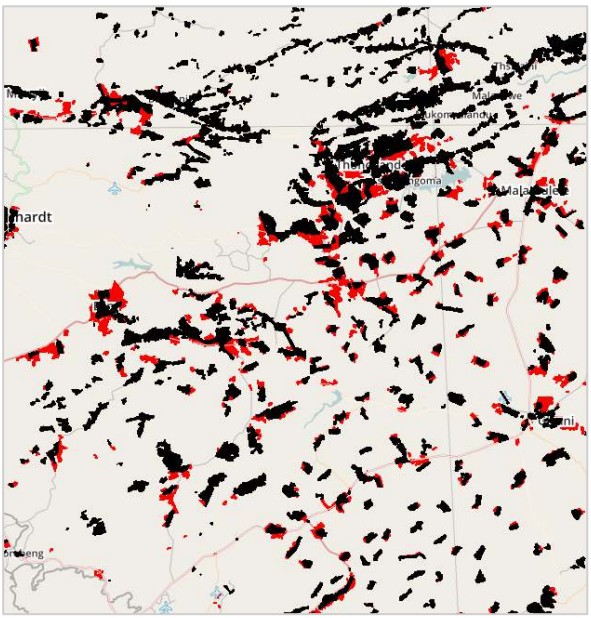
The map of the Gauteng areas shows rapid settlement development of the urban cores, but also in the outlining functionally-linked and even the long-distance commuter area KwaMahlanga in Mpumalanga. In the same way, the Thohoyandou area also shows very rapid growth in its settlement footprint. However, it is not as concentrated as in Gauteng. Th egrowth in rural areas, however, brings different challenges than growth large urban areas. The key is that it is rapidly growing.

*Map 16a: Comparative settlement footprints for selected areas 1990 and 2014*

Gauteng

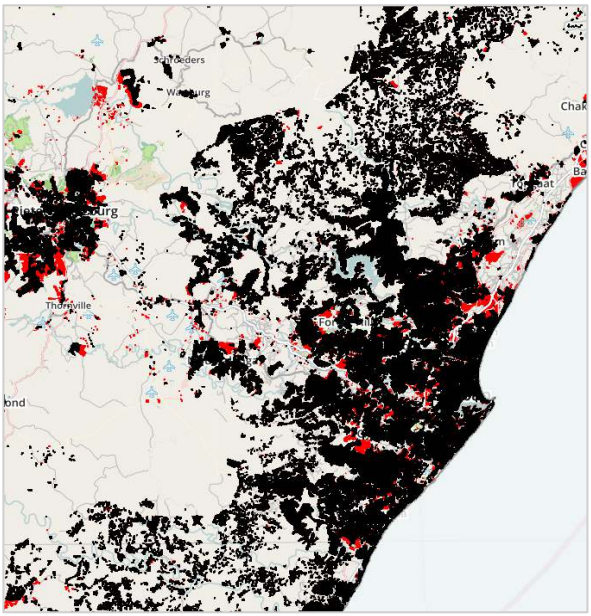



Thohoyandou area Limpopo

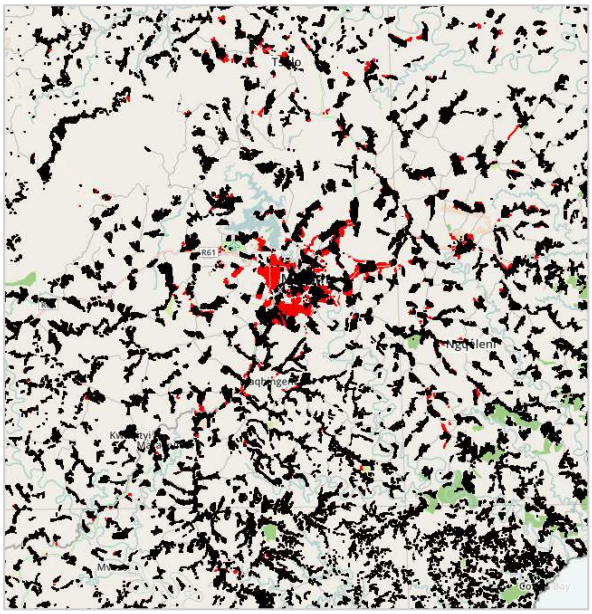


The two maps below show how growth in eThekwini was more focused on the core urban areas. The growth in Mthatha was very focused on the existing urban core, more so than was the case in Thohoyandou, notwithstanding the fact that both are nodal points in a traditional ex-homeland environment. The difference may be that Mthatha is formally better defined as Thohoyandou and has a much longer urban tradition.

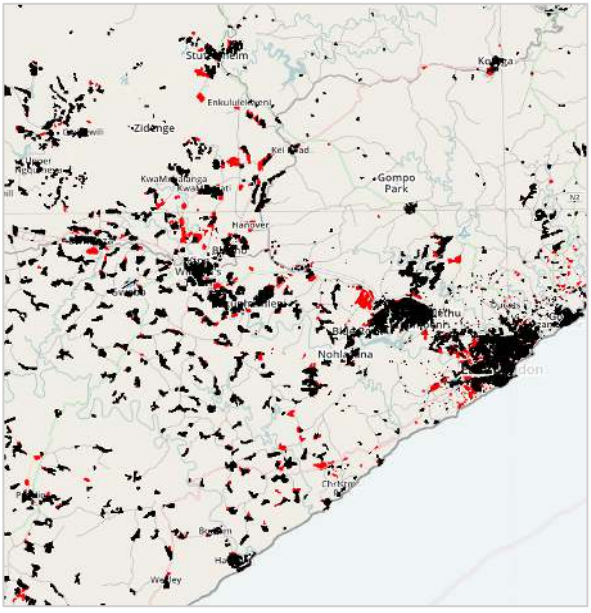
eThekwini region in KZN



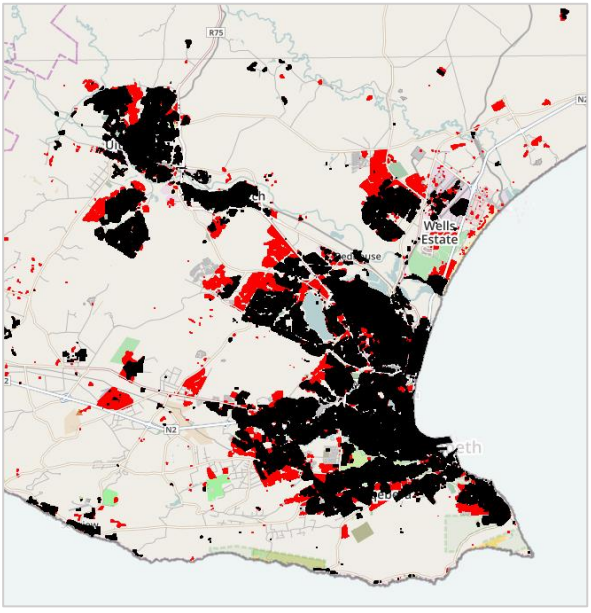

Mthatha area in the Eastern Cape




Buffalo City and its region

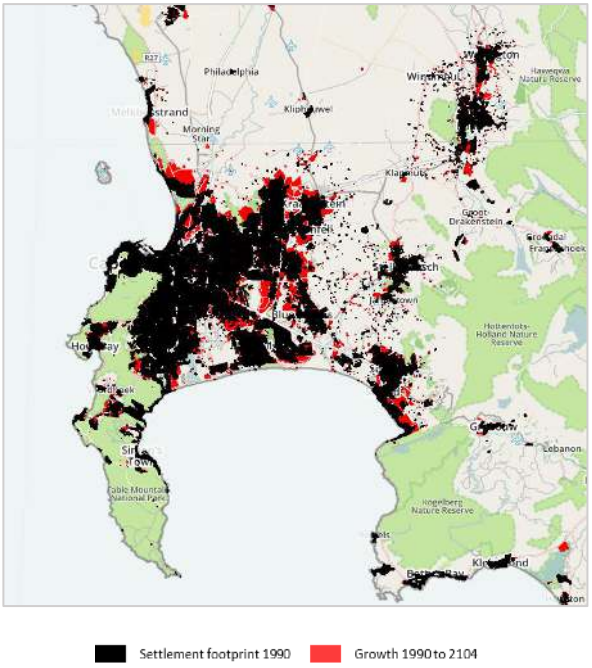



Nelson Mandela Bay

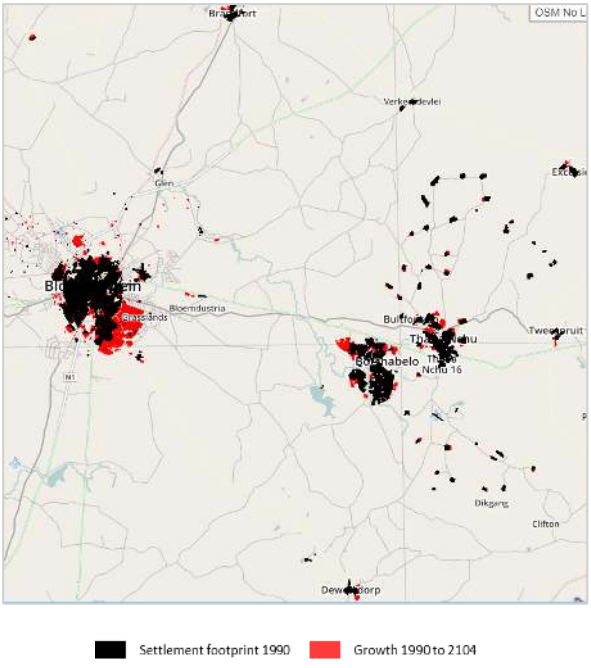



Buffalo City (East London) has strong functional links with Bisho in former Ciskei, and both centres show expansions in settlement footprints. The four maps above and the two below show very specific growth directions. Table 23 below shows the extent of these growth patterns for the different elements of land cover.

Cape Town Metropolitan Area




Mangaung region




The major growth areas in all the examples are growth in informal urban areas and built-up areas. Informal settlements were not general phenomena in 1990 and growth took place from a small base. Urban townships grew across the board. All areas show strong growth with very similar patterns, irrespective of location or urban tradition.

*Table 23: Changes in land cover between 1990 and 2014*

| Land cover category | Gauteng | Thohoyandou | eThekwini | Mthatha | Mangaung | Buffalo City | Nelson Mandela | Cape Town |
|---|---|---|---|---|---|---|---|---|
| School and sports grounds | 3,0% | -6,9% | -14,3% | -17,7% | 3,0% | -19,9% | -16,7% | -8,0% |
| Urban sports and golf | 8,6% | 4,0% | 15,2% | -24,5% | 8,6% | -12,5% | 15,4% | 5,6% |
| Urban built-up[31] | 278,6% | 19,8% | 757,6% | 741,2% | 278,6% | 8,3% | 131,2% | 682,1% |
| Urban commercial | 20,3% | 7,7% | 26,7% | -2,7% | 20,3% | 18,2% | 42,5% | 29,9% |
| Urban industrial | -24,5% | -8,6% | -5,1% | -16,4% | -24,5% | -13,8% | -14,7% | -6,9% |
| Urban residential | 0,1% | 25,6% | -4,3% | -2,1% | 0,1% | -7,4% | 7,4% | 6,4% |
| Urban small holdings | -1,8% | 0,0% | -14,0% | -19,3% | -1,8% | -4,4% | -9,8% | 4,6% |
| Urban townships | 40,3% | 84,0% | 6,9% | 121,8% | 40,3% | 39,0% | 90,1% | 9,9% |
| Urban informal | 947,7% | 0,0% | 14,6% | 883,7% | 947,7% | 83,1% | 3922,1% | 256,3% |
| Rural villages | 10,1% | 21,5% | -8,7% | -5,6% | 10,1% | 8,3% | 126,1% | 0,0% |

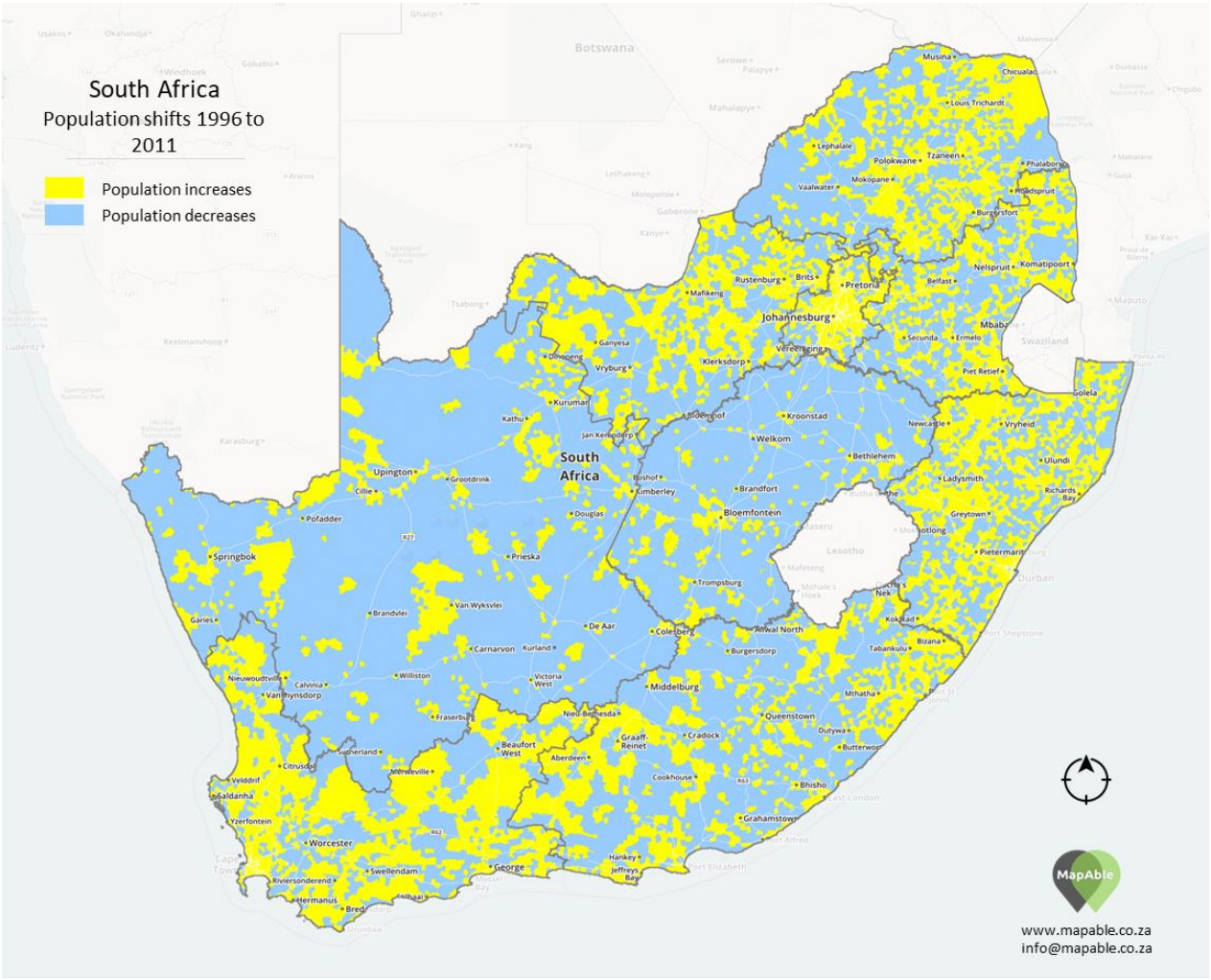
Indications are that the demand for land is not exclusively urban. The difference, however, lies in different land tenure systems between the areas and within some of the areas.

## 5.2 Population shifts and growth

The previous section deals with settlement patterns. This section addresses the spatial dynamics of population settlement. The first map below simply shows areas where the population grew and areas where it declined between 1996 and 2011.

[31] Areas containing variable densities of buildings, other built-up structures, or no structures at all, are not clearly identifiable as one of the other built-up classes. These may include runways, major infrastructure development sites, holiday chalets, roads, car parks, cemeteries, etc.

*Map 17: Population shifts from 1996 to 2011 – increases and decreases*



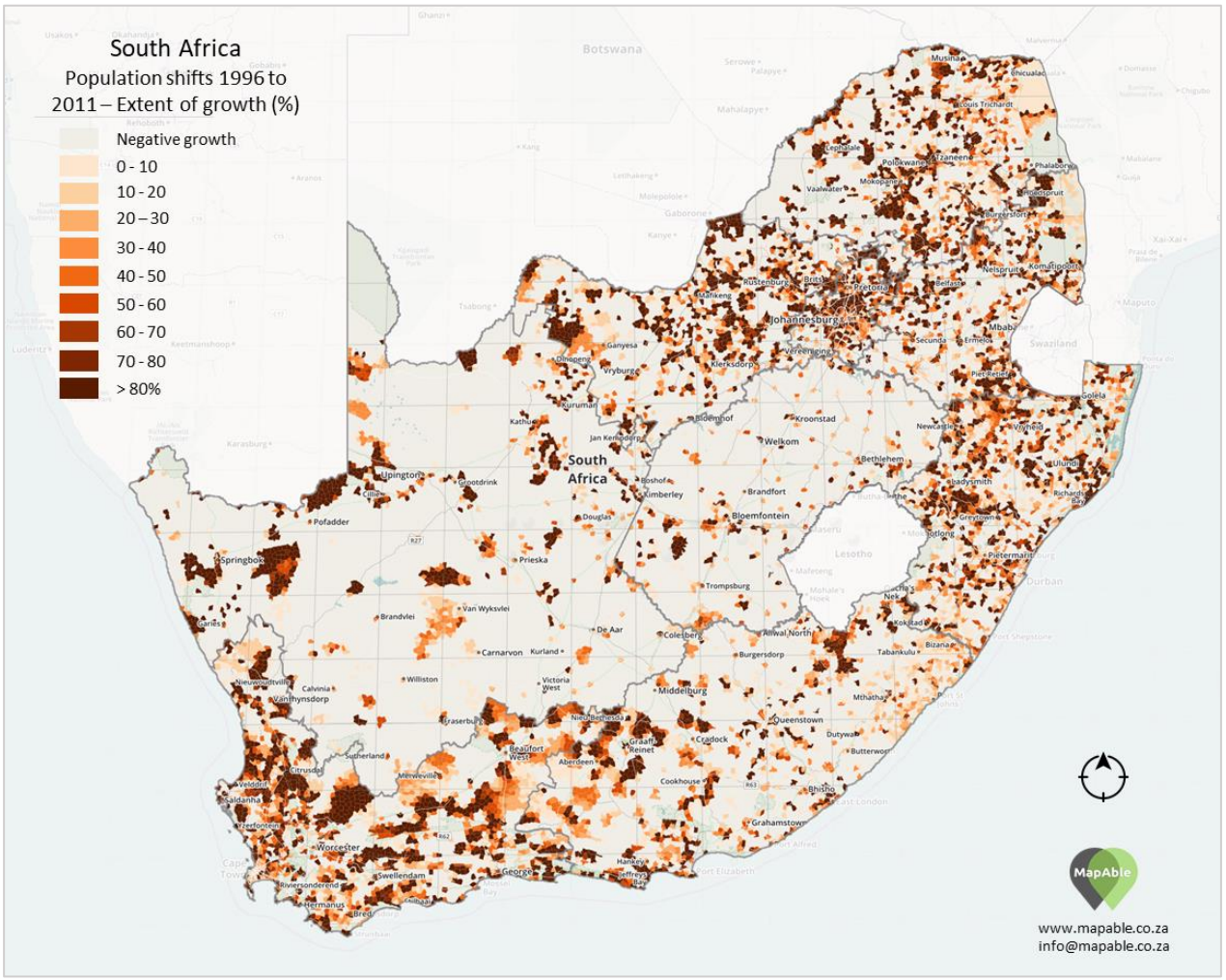

*Source: Calculated by MapAble using Census 1996 and Census 2011 data (Statistics South Africa), linked to the South African Mesoframe development by the CSIR*

The map indicates that:

1. The rural areas of the Northern Cape, Free State, the southern parts the Eastern Cape and areas south of Lephalale and north of the North West border with Limpopo declined in respect of population. There are many other areas where the population declined, but dispersed between growing areas.
2. There are areas of growth associated with ex-homelands and, as expected, with the metropolitan areas.
3. There are two areas of interest. The first is the extent of growth in the rural parts of the Western Cape and even in core areas of the Karoo extending into the neighbouring farming areas of the Eastern Cape. The second is the depopulation of the Free State farming areas notwithstanding good agricultural potential. The Free State towns all grew. This can only be indicative of a shift from farms to neighbouring towns.

The next map shows the extent to which these changes took place. The patterns described above are accentuated. The intensity and extent of growth differ. For example, the rural areas of tribal Eastern Cape did grow, but at a very low rate. The same applies to the smaller towns in the Free State and Northern Cape. The map also shows how strong growth was across the Western Cape, in particular in the deep rural areas of this province. It seems that nodal points are growing as a rule, albeit at different rates, contrary to general perceptions that growth is limited to major urban areas.

*Map 18: Population shifts from 1996 to 2011 – the extent of growth (%)*




*Source: Calculated by MapAble using Census 1996 and Census 2011 data (Statistics South Africa) link to the South African Mesoframe. Development by the CSIR.*

## 5.3 The spatial distribution of the economic value of agricultural production

Clear patterns emerge throughout previous sections, which implicate topography, climate and soil as determinants for settlement patterns and agricultural activities both in terms of potential and the actual distribution thereof.

### 5.3.1 The value of economic production in agriculture

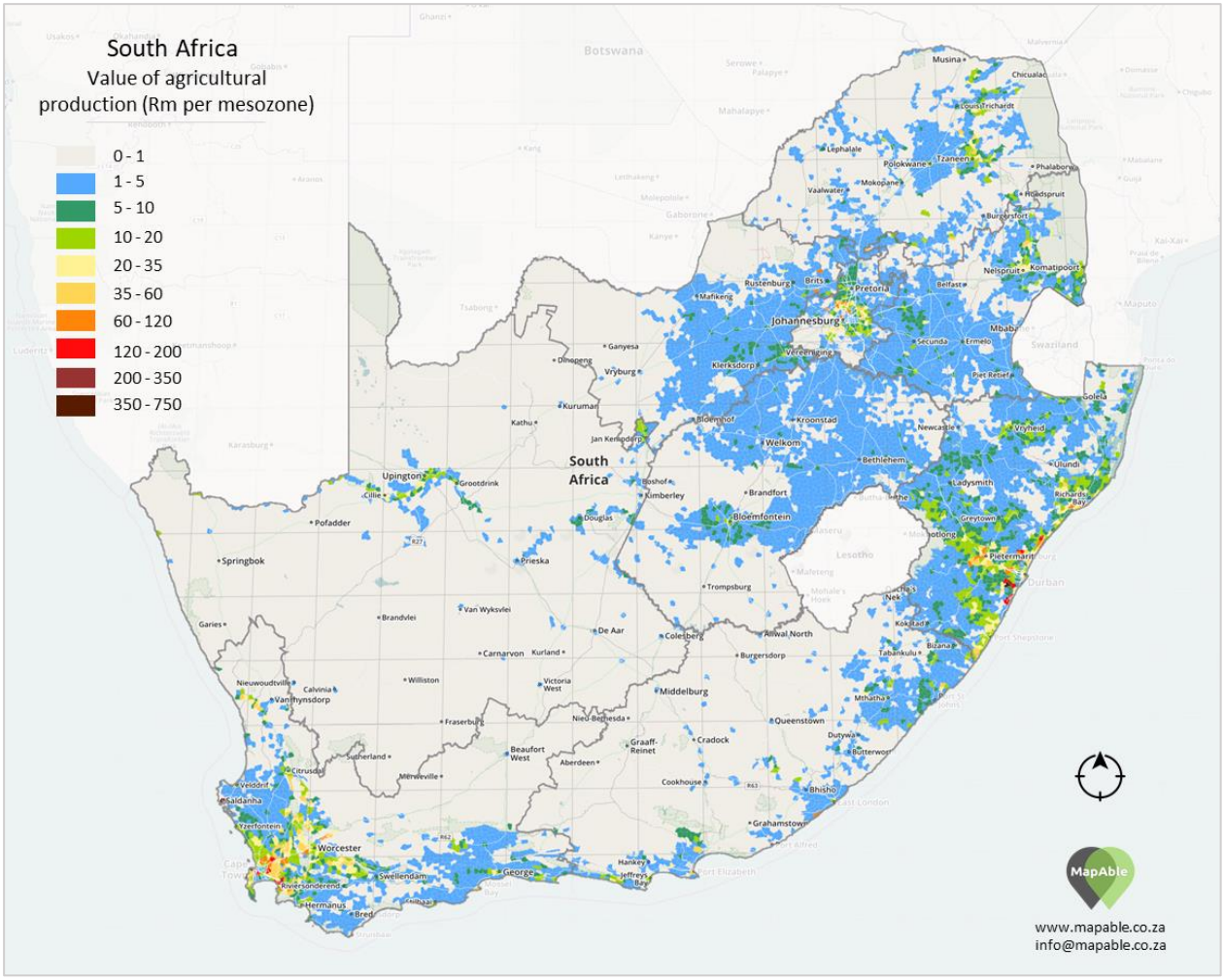
The value of economic production measured in term of gross value added (GVA)[32] confirms the spatial patterns identified for agricultural potential and settlement in the preceding sections of this report. As indicated on Map 19, the value of agricultural production correlates closely with patterns of potential of available arable land. The following must be noted:

1. The value of agricultural production is notably higher closer to the cities. Two reasons explain this. Firstly, the major urban complexes represent strong markets and, secondly, regarding land economics, agricultural production closer to cities must compete with other land uses for available land, and the output per unit of land must therefore be high to justify agricultural production very close to cities.

[32] Gross value added (GVA) is defined as economic output (at basic prices) minus intermediate consumption. GVA can be broken down by industry and institutional sector. The sum of GVA over all industries or sectors, plus taxes on products, minus subsidies on products, gives gross domestic product (GDP)

2. The impact of water and hence the ability to irrigate can be seen on the map. The combination of the ability to irrigate close to cities highlights the strong contribution to GVA in the Cape Town metropolis and adjacent areas, as well as in and around eThekwini and along the northern and southern coasts of KwaZulu-Natal.
3. The former homeland areas are contributing very little to agricultural production in economic terms. As pointed out earlier, these areas constitute primarily subsistence farming areas. It is obvious that this correlates with communal landownership.

*Map 19: Value of agricultural production (R million per mesozone)*




*Source: CSIR – Built Environment. GVA Meso-framework 1996 to 2013.*

## 5.3.2 Economic growth – 2001 to 2013

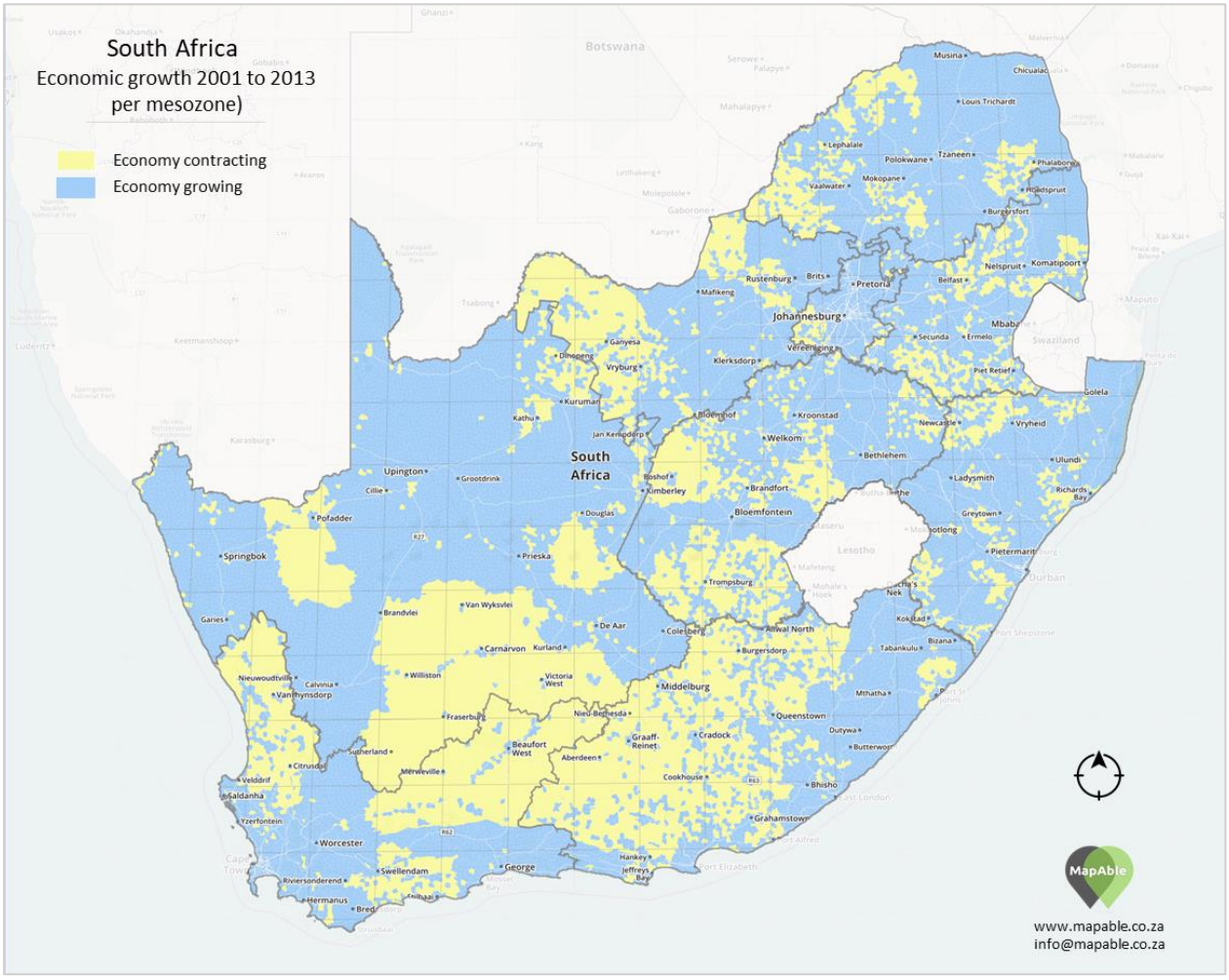
The last element in the equation is the dynamics of economic growth. While there are clear patterns in the value of economic production, major considerations are economic growth and where this takes place.

Map 20 below shows a distinction between areas where the local economy has expanded or contracted between 2001 and 2013. The biggest feature is the contraction of the economy in the central Karoo. This conflicts with the pattern of strong population growth in this area. The reason for this contradiction is not clear, except for the fact that economic dynamics and population dynamics do not necessarily match – in other words, people do not necessarily relocate for purely economic reasons. This also applies to the northwestern parts of the Western Cape and some other areas in South Africa. A progressive, interventionist government that focuses on social needs may help to explain the disconnection between economic growth and population shifts.

This section does not explore the drivers behind economic growth or contractions. Nevertheless, it seems that economic contraction may be linked to agricultural conditions in the commercial farming areas. The subsistence farming areas

(predominantly ex-homeland) are an exception and, since we have established that subsistence farming does not contribute significantly to economic production, the value of economic production and growth must be in other sectors.[33]

*Map 20: Economic growth per mesozone (2001–2013)*




*Source: Calculated by MapAble using Census 1996 and Census 2011 data (Statistics South Africa) linked to the South African mesoframe. Developed by the CSIR.*

## 5.4 Mining

Mining competes with agriculture for land. The table below shows the extent of land changes in the mining footprint between 1990 and 2014. The table includes all types of mining, including borrow pits and quarrying.

The Northern Cape has the biggest mining footprint. This includes the iron ore mines at Sishen, but more importantly the extensive diamond mining in Namaqualand along the Atlantic coast from Port Nolloth to Sendelingsdrift in the Richtersveld Transfrontier Park. As the table indicates, these mines cover vast tracts of land, but it is not in conflict with agricultural activities and specifically higher-potential arable or irrigation land. The mining footprint is growing in the Western and Eastern Cape, but it is from a very small base and represents relatively small areas.

However, it is in North West (platinum), Limpopo (platinum, diamonds, coal and chrome) and Mpumalanga (coal) where conflict does arise. In Mpumalanga, mines encroach on high-potential arable land and practically sterilises it for future use. The second conflict entails competition for water sources, as is the case north of the Soutpansberg in Limpopo. This does not include the effect of acid water drainage. Map 21 shows the mining areas of the Highveld, but even on the Witwatersrand, the northern Free

[33] W. Sohlobo. "*Non-commercial or subsistence farming" constitutes a small share of 6% in South Africa's maize production*. https://twitter.com/WandileSihlobo (accessed 17 April 2018)

State coalfields and on the platinum belt north of Rustenburg, mining activities are located on some of the best agricultural land in South Africa.

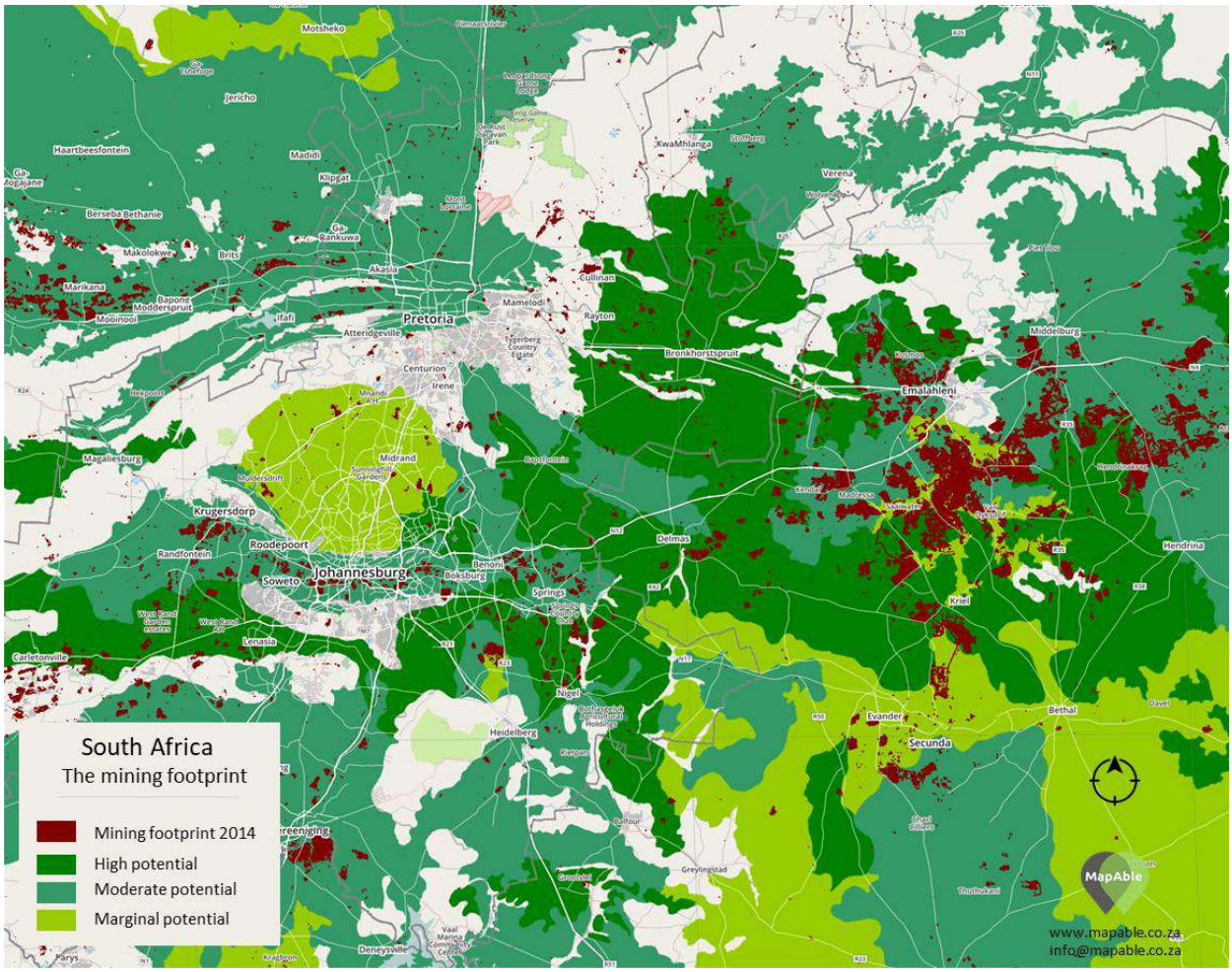
Although not major mining areas, alluvial diamond mining co-exists with land cultivation in the North West. Mining takes place in old river beds not suitable for cultivation.

*Table 24: The extent of mining land per province (1990 and 2014)*

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| | Area (ha) | % of province | Area (ha) | % of province | % change |
| Eastern Cape | 3 849 | 0,02% | 4 155 | 0,02% | 7,96% |
| Free State | 24 264 | 0,19% | 23 950 | 0,18% | -1,29% |
| Gauteng | 24 618 | 1,35% | 20 881 | 1,15% | -15,18% |
| KwaZulu-Natal | 5 366 | 0,06% | 5 553 | 0,22% | -15,18% |
| Limpopo | 28 421 | 0,23% | 28 928 | 0,23% | 1,78% |
| Mpumalanga | 46 434 | 0,61% | 77 635 | 1,01% | 67,19% |
| Northern Cape | 104 227 | 0,28% | 102 215 | 0,27% | -1,93% |
| Northwest | 44 311 | 0,42% | 58 329 | 0,55% | 31,63% |
| Western Cape | 3 229 | 0,02% | 9 509 | 0,07% | 194,50% |
| Total | 284 720 | 0,23% | 331 155 | 0,27% | 16,31% |

*Source: Cross-tabulated by MapAble from Land-cover dataset released by the Department of Environmental Affairs*
*https://egis.environment.gov.za/gis_data_downloads*

*Map 21: Potential for land cultivation and the mining footprint (2014 )in Central South Africa*



*Source1: ARC-ISCW. 2005.* Overview of the agricultural natural resources of South Africa. *ARC-ISCW Report No GW/A/2004/13, ARC-Institute for Soil, Climate and Water, Pretoria.* http://www.agis.agric.za/agisweb/agis.html
*Source 2: Land-cover dataset generated in-house by Geo Terra Image (Pretoria) in January 2015, based on primarily multi-date Landsat 8 imagery acquired between April 2013 and March 2014. Released by the Department of Environmental Affairs.*
https://egis.environment.gov.za/gis_data_downloads

# 6 A racial perspective on landownership – is it possible?

The land issue in South Africa is fundamentally about race. As stated in the introduction, 1994 land restitution targets specifically target white-owned farms (see section 1.2 on page 1). To achieve targets, one obviously needs data to measure performance and the achievement of land restitution targets. Up to this point, this report dealt with the factual situation about land and the use of land in South Africa. It does not deal with land and race. However, irrespective of the means of restitution (whether through land markets, expropriation or even nationalisation of land), one needs data. This is a conundrum that poses a serious challenge through which, by implication, the more non-racial South Africa wants to be the more racially centrist that it needs to be in its data and data collection system. The fundamental question is whether it is possible to provide a credible perspective on landownership based on race in South Africa.

There have only been two attempts to address the issue. The first is the *Land: Audit: A transactions approach*[34] by AgriSA, which was released in November 2017. The second is the *Land Audit Report*[35] by the DRDLR, also released in November 2017. The efforts that clearly went into these reports underline the need for a racially-based perspective on land in South Africa.

Both reports are assessed regarding their objectives, methodology and the application and use of data.

## *6.1 Land audit: A transaction approach*

The report – initially a research project by Agricultural Development Solutions (ADS) in collaboration with *Landbouweekblad* – compiled a database of landownership that reflects all transactions involving agricultural land larger than 10 ha. The database includes transactions from 1994 to 2016. The report was released by AgriSA, stating that "unfortunately, in the absence of statistics, the policy debate has turned to ideas such as radical economic transformation, land ceilings and expropriation without compensation. These ideas are fuelled by the view that land reform and the land market have failed to deliver an acceptable level of land transfer to previously disadvantaged individuals and disadvantaged communities." The aim of the report was to provide a more detailed indication of the racial makeup of landownership in South Africa.

The report came to the same conclusion as the current report as well as the DRDLR's reports, namely that there are about 93,3 million ha available for agriculture in South Africa.

The report uses various sets of base information to achieve its objective of a quantitative approach to determine the racial makeup of agricultural land and focuses on the period 1994 to 2016. The assessment also uses data from the Surveyor General's office (one must assume cadastre) and data provided by the Geo Terra Image and the 1993 Agricultural Census. The aim was clearly to perform a comparative assessment of changes in landownership between 1994 and 2016.

The report describes a technical process to create databases from which landownership could be derived. The core of this process centred around tracing land transactions in the Deed Office since 1994. Working from the base data, the report describes how profiles were allocated to each land transaction. These profiles considered land use, occupation and the landowner's race.

The greatest uncertainty in the process must have been the process whereby the race of landowners was determined. The report states that "[t]o determine the race of landowners, ADS considered each person's surname together with the specific area where the land is located. For example, a landowner with an Afrikaans surname, located in an area that is known to be owned by Previously Disadvantaged Individuals (PDIs), would be assumed to be a landowner classified as a PDI. Furthermore, traditionally white surnames would be assumed to indicate ownership by white people, while surnames associated with PDIs would be assumed to indicate ownership by PDIs." The methodology also included discounting land potential in the process.

It is very difficult to make any conclusions about the results presented in the report. There seem to be general agreement between the AgriSa report and macro position described in this report. The lesson learned from this AgriSA report is that processes are flawed through its assumptions, as is the case on the process in AgriSA report to assign race. A general conclusion may be that,

[34] AgriSA. November 2017. *Land Audit: A transactions approach*.
[35] DRDLR. November 2017. *Land Audit Report, Version 2.*

given the information available in the public domain, it remains a challenge for anyone to produce anything that is conclusive and credible regarding race and landownership in South Africa.

## *6.2 Land Audit Report 2017*

### 6.2.1 Background and objectives

In the introduction to its report, the DRDLR writes that it published the first *Land audit on state-owned land* in 2013.[36] Certain deficiencies were identified in the initial report. While addressing these issues, Cabinet instructed the DRDLR to conduct a second land audit that focused on private ownership and use of land by race, nationality and gender – hence, the State's objective of performing a land audit is to provide information on private landownership by race, nationality, and gender as of 2015.

Work commenced to this end in 2014 under the leadership of the Offices of the Chief Surveyor-General (CSG) and the Chief Registrar of Deeds (CRD), in partnership with other government departments and state-owned entities. The report neither states who these entities and departments were, nor what their roles were in the process. The greatest challenge from the outset was that no official information has been published on landownership according to race, gender and nationality since 1994.

### 6.2.2 Data used

The report states that it used data from the following sources:

1. The Office of the CRD for landownership information. These records contain only the name, surname and South African identity number or date of birth, but not race.
2. The Office of the CSG for cadastral information.
3. The Department of Home Affairs (DHA) for the population register, which contains the nationality of origin and gender of South African citizens.
4. Statistics South Africa for census data that contains the race of individuals.

The Department of Home Affairs maintains the electronic population register, which contains among other information names, surnames, South African identity numbers, nationality and gender – but not the race of South African citizens. The report concedes that Stats SA is the only institution that officially collects and keeps a database of the race of individuals.

### 6.2.3 Methodology

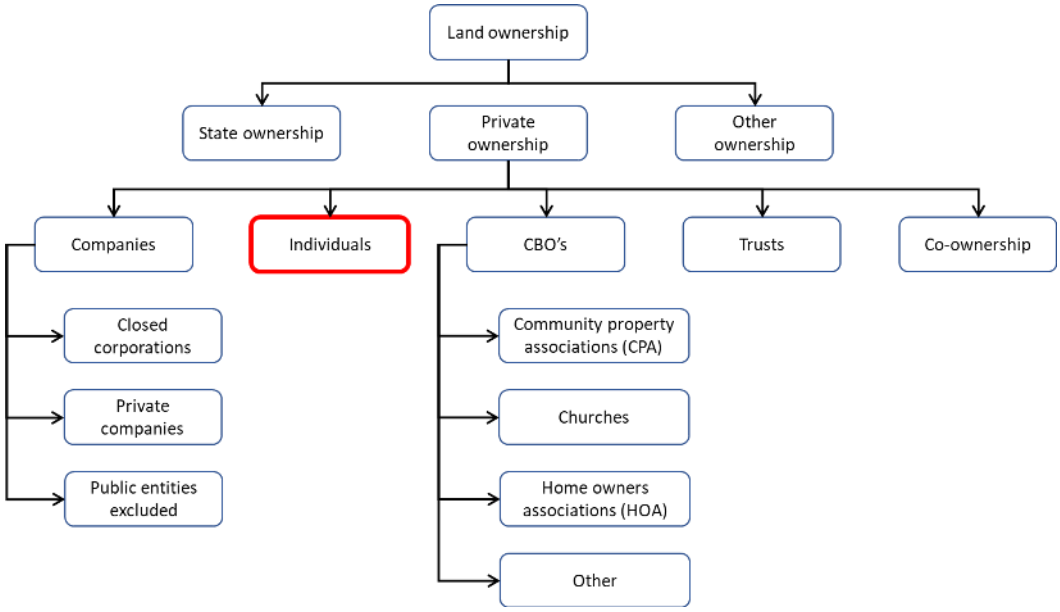
The following steps are described in the report:

1. Data preparation
2. Owner classification
3. Exporting individuals' data
4. Processing by the DHA and Stats SA
5. Importing the results into the DRDLR database
6. Analysis

After data collection and the creation of a database, the classification of landowners was the first step. According to the description in the report, the classification of owners was done on two levels. The initial classification distinguished between private and state owners. The classification resulted in the following rather complicated classification structure:

[36] This report and its supporting land database was discussed in section 3.1 on page 8. The 2017 was an outflow of the 2013 report.

*Figure 4: Landownership structure in* Land Audit Report 2017




The process continued by adding five categories used to classify landownership according to gender, which only applied to individuals. The classifications were "male", "female", "male-female", "co-ownership" and "other". "Male-female" was used to classify land owned jointly by male(s) and female(s). "Other" was used to classify land owned by owners that were not found in the DHA population register. Co-ownership was used to classify land where the land is owned by the combination of the four classifications. Incomplete owner names that made it impossible to determine if ownership resided in the State or private entities were also classified as "other". Land owned by the national government, municipalities, the provincial government, public entities or public schools were classified as "state", including land in the name of the Ingonyama Trust. Practically, land which was not state land was regarded as private land categorised as indicated in the diagram.

The previous steps gave a basis for classification, but the subsequent steps, which focussed only on individuals and all other categories, were by the DRDLR's admission largely ignored as it was impossible the find a way to racially classify these groupings. The following steps were followed:

1. Owner information of individuals was prepared to meet the DHA and Stats SA requirements for successful processing. ID number is the only common link between DHA and Stats SA data on individuals. The report then confirms that Individual owners were then exported for processing by the DHA and Stats SA. The output was then imported back into the database for analysis.
2. The report describes the process whereby database was extracted from the DRS, which included owner names, owner surname, ID number or date of birth for individuals. The owner names, owner surname and ID number were used to extract race of individuals from the census data.

   Very importantly, the DRDLR reports that, in cases where the owner information is not identified in the census database, the names and surnames were used to try and determine the race – conscious of the limitations that this carries. A combination of names, surname and ID number or date of birth, and in other cases only the ID number, were used to extract data from the population register.
3. While the racial classification was in process through the information from Stats SA, a rigorous process was followed to align deeds data to current provincial boundaries, to update missing extents using the cadastral database, to capture extents from original documents and to convert extents to hectares. Although a 2017 state land database is available, it is currently unavailable in the public domain.

### 6.2.4 The results of the 2017 land audit

This report will not assess the details of the *Land Audit Report 2017*. However, it is worthwhile to focus on national figures in the light of the preceding sections of this report. When assessing the results, there is a basic distinction that must be made, namely that from a geospatial perspective, this report deals with surveyed land (by the Surveyor-General), while the *Land Audit Report 2017* deals with registered land (by the Registrar of Deeds.) Although it should technically give the same results, there are known unregistered land as well as errors in the surveyed land, however. The *Land Audit Report 2017* accepted this, and it is a practical reality that eventually should be rectified.

Referring back to the assessment done in section 2.2 on page 6 of this report, one can be satisfied, given some differences in details, that the basic points of departure are the same. The extent of land not under state control is practically the same as calculated earlier in this report, namely 93 362 605 ha, compared to the figure of 93 956 125 ha quoted in the *Land Audit 2017 Report*. [37] Based on the total area of South Africa, state-controlled land amounts to 24,05% and land not under state control the balance of 75,95%

The greatest shortcoming in the *Land Audit Report 2017* is that it was only able to deal with individuals in terms of the objectives of a racially-based land classification. According to the *Land Audit Report2017*, individuals own 37 031 283 ha, which constitutes 30,1% of total South Africa (surveyed South Africa and deeds registered). The challenge, however, lies in the process to assign race to land ownership. In the *Land Audit Report 2017*'s own admission, the process is flawed, and the use of persons' names as basis for racial classification cannot withstand the test of an objective and rational process.

There is currently a debate going about the use of an individual's confidential and personal data without the individual's permission. Confidentiality between State and citizen is paramount, since a person must on a regular basis provide privileged information to state entities.[38] Section 14 of the Constitution protects an individual's privacy. A challenge arises in this regard in terms of the process used to determine the race of owners, and the legality of the process comes into question. There is concern that processes followed do not meet the confidentiality requirements of the Statistics Act, 1999 (Act No 6 of 1999).

The DRDLR describes in detail in the methodology section of the report how the census records of individuals were used to extract information on race. Under the data section (Section 5 on page 3), the report states that "the primary source of information in this report was obtained from … Statistics South Africa for census data that contain the race of individuals".

The DRDLR's 2017 land audit, as a seriously-flawed process that received much publicity, conclude that "[t]he Land Audit reveals that Whites own 26 663 144 ha or 72% of the total 37 031 283 ha" (Executive Summary, p. 2) in private ownership. This, by their estimates, is 21,7% of the total land area of South Africa and not the figure 72% generally quoted. The rest remains unknown.

# 7 Conclusions

The report set out to contribute to the factual base on land and specifically agricultural land in South Africa. In conclusion, the following is evident:

1. The question around land is complex and multi-dimensional.
2. There are challenges regarding land data. However, there is sufficient data to allow analysis of relevant facts and to build a sufficient background on land, and especially agricultural land. Many datasets are available in the public domain. However, the data resides with different data custodians, which makes access and integrating data a challenge.
3. The most important asset in the land debate is South Africa's cadastral system, which is managed and maintained by the Office of the Surveyor General and the Office of the Registrar of Deeds, where property ownership and property transactions are recorded. As stated in this report, the existence of these two pillars of land may be the distinguishing factor between South Africa and its advanced economy, and many poorer countries in Africa. These are two institutions that must be guarded and supported in the work that they are doing.
4. There are errors in data (in the cadastre, as well as deeds and other) that requires urgent attention. However, in analysing these datasets, awareness of deficiencies allows one to work around it and still come to credible conclusions. Working independently from other initiatives, this report's conclusion on the extent of land under state control is very similar to that of Government's own audit and at least two other independent sources. The challenges, however, multiply as one starts to scrutinise detail or attempts to work in small local geographic spaces. Many datasets do not lend themselves to local analysis simply because they were not created for that purpose. The best vehicle for the improvement of data is to put it unconditionally in the public domain and allows it to be scrutinised.
5. The data on the many agricultural perspectives given in this report speaks for itself. Agricultural land in South Africa and our ability to use this land is inextricably linked to topographical, soil and climatic conditions. These conditions are also the driving force – and will remain so – behind human settlement patterns in South Africa.
6. Rapid changes are taking place in our settlement patterns. Urbanisation is much more than people moving from rural and farming areas to cities. We may need to rethink our perceptions and policies to address population shifts. Not only cities and larger towns are rapidly changing, but small country towns and tribal settlements in deep rural areas as well.

[37] This report prefers not to refer to land not under direct state control as land in the hands of the private sector. This land cannot be simply classified as land in the hands of the private sector, as explained in the system of land classification of the DRDLR explained above.

[38] See a discussion paper of the South African Law Reform Commission titled *Privacy and Data Protection*, Discussion Paper 109, Project 124, October 2005, in this regard.

This has an impact on agriculture and will put a demand on land tenure systems, governance and infrastructure creation and maintenance.

7. The economic landscape is changing. There are farming and rural areas that show long-term economic contraction, but these processes are contradicted by increases in population in some of these areas. This translates to a lower income per capita in these areas, which can contribute to welfare and social problems that, in the end, can lead to an increase in crime. There may be more than just economic forces and opportunities driving settlement decisions.
8. It is evident that it is impossible to attach race to property ownership in any credible way. There is simply not sufficient information on race and land to make a link that can satisfy the land debate. Both efforts assessed in this report to address the issue are flawed by their own admission and in their assumptions. It is unclear how this can be resolved, but the holy grail of the land debate will elude us for some time to come.
9. The use of data form Stat SA that identifies the race of individuals is a matter of concern.

# Attachment A. Provincial land maps and data summaries

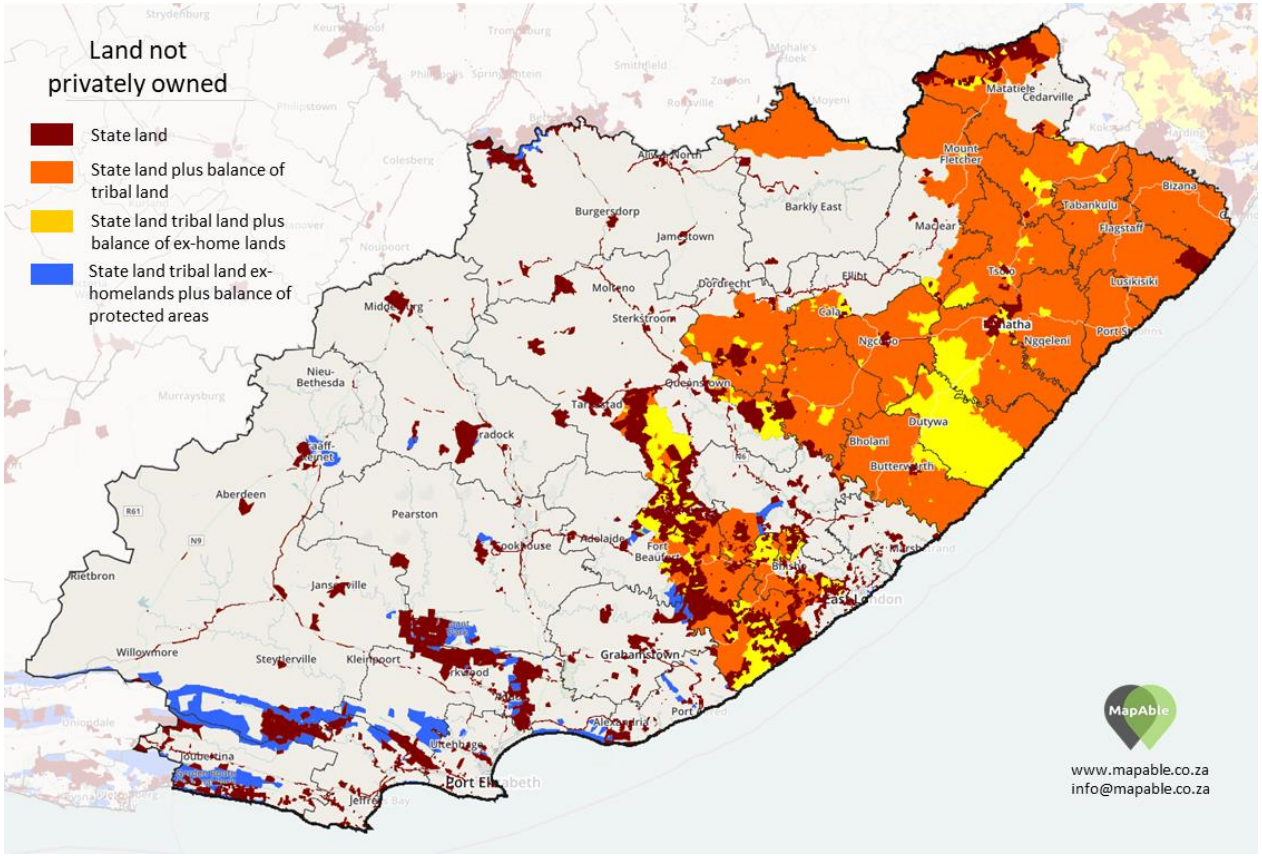
This attachment shows more detailed maps for each province. All the matter shown on the map were analysed and assessed in the main report. This attachment is for information purposes only.

The following is included for each province:

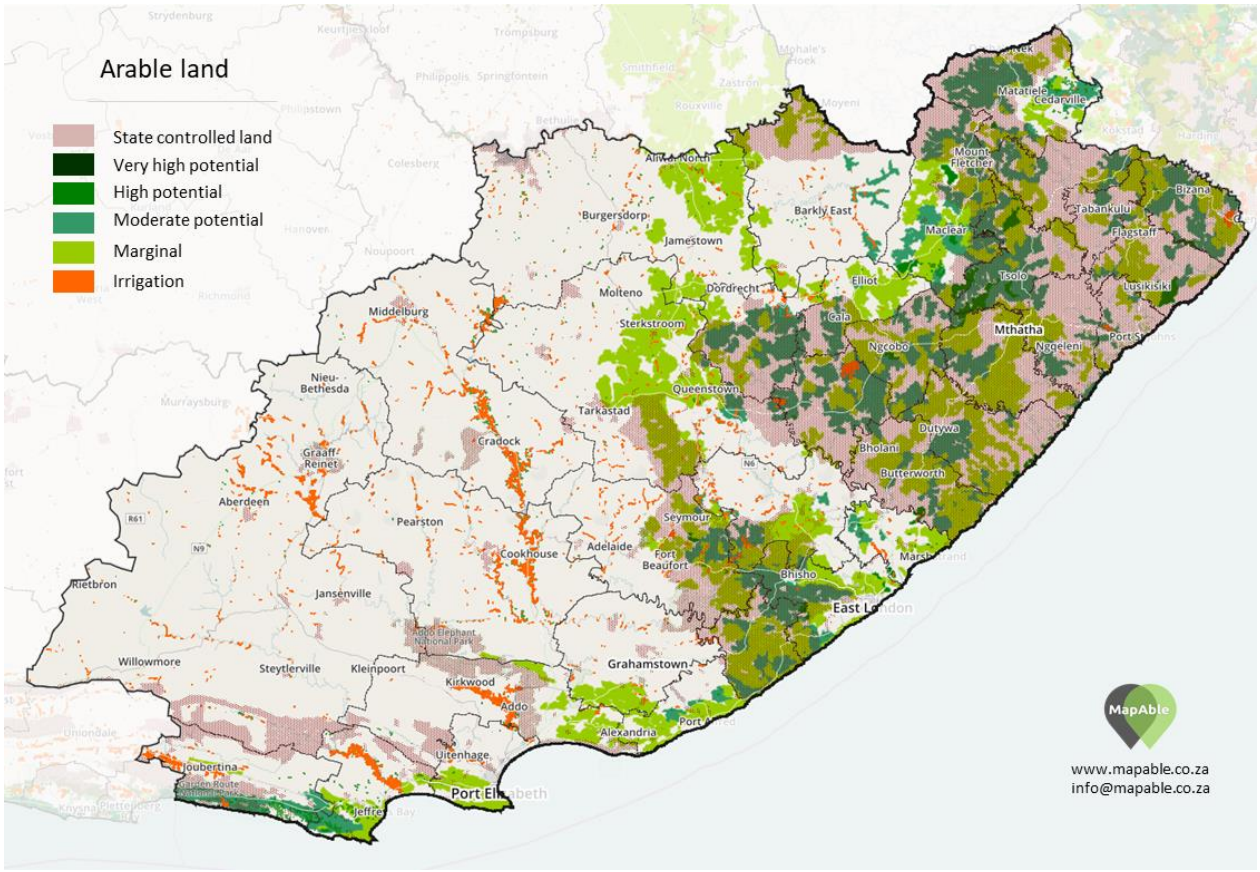
1. The land not privately owned (land under state control), followed by –
   a. A table showing comparative state owns land components per province
2. Arable land in terms of the land capability (potential), followed by –
   a. A table showing land cover on the actual area of land under cultivation
3. The grazing potential in the province, followed by –
   a. A table that summarises other land uses and shows different urban uses and also mining land.

## Content reference

1. Eastern Cape

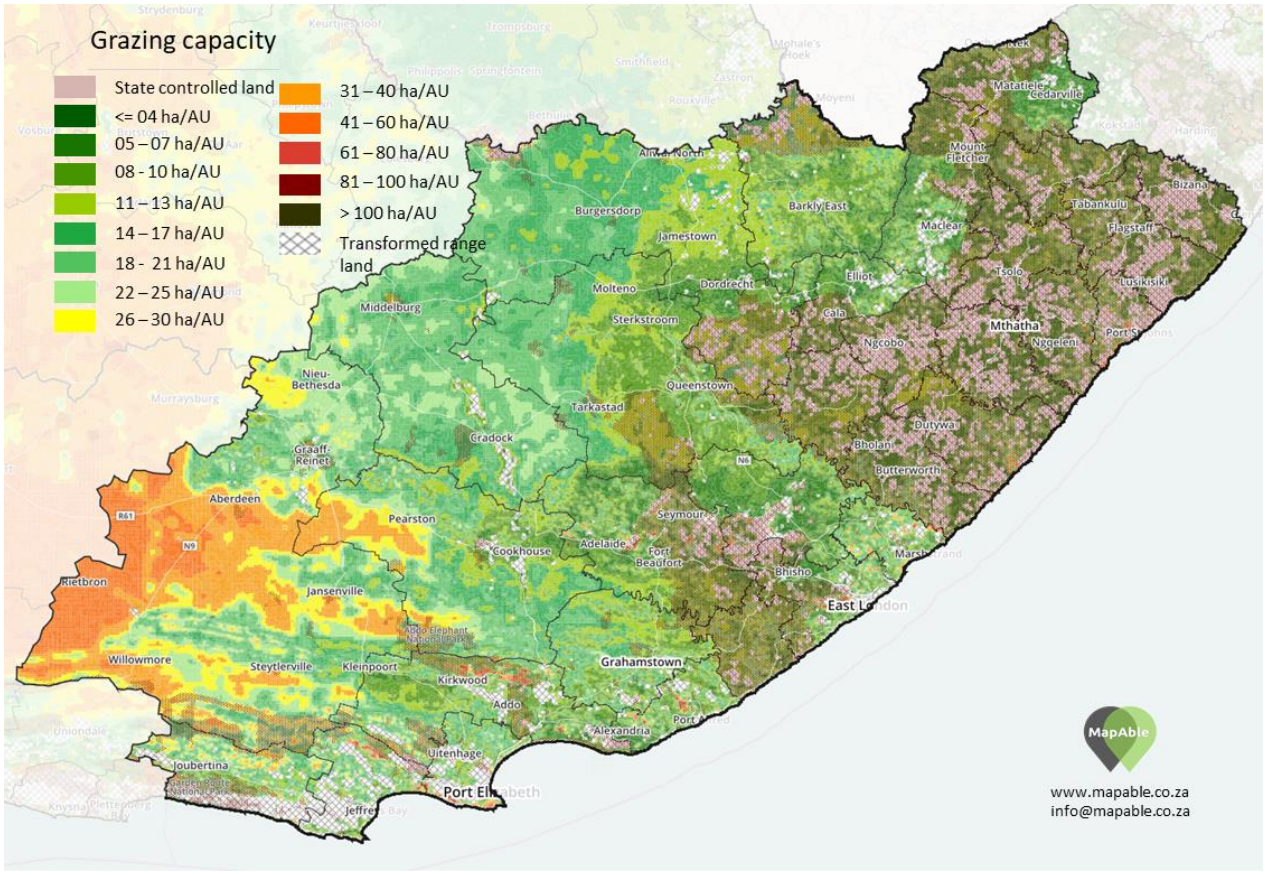



| Province | State land | The remainder of tribal land not included in column B | The remainder of ex-homelands not included in columns B and C | The remainder of protected areas not included in columns B, C and D | Total land under state control | The total area of the Province | State land as % of the total land area |
|---|---|---|---|---|---|---|---|
| A | B | C | D | E | F | G | H |
| Eastern Cape | 931 660 | 3 753 072 | 833 792 | 348 392 | 5 866 916 | 16 930 984 | 34,65% |
| Free State | 729 484 | 29 394 | 69 468 | 22 386 | 850 733 | 13 001 148 | 6,54% |
| Gauteng | 270 383 | 3 415 | 30 484 | 57 634 | 361 916 | 1 818 249 | 19,90% |
| KwaZulu-Natal | 1 957 858 | 1 891 568 | 505 390 | 586 090 | 4 940 907 | 9 445 102 | 52,31% |
| Limpopo | 2 429 635 | 1 303 988 | 496 218 | 1 136 637 | 5 366 478 | 12 580 603 | 42,66% |
| Mpumalanga | 1 613 060 | 266 666 | 75 830 | 48 675 | 2 504 231 | 7 654 431 | 32,72% |
| Northern Cape | 2 674 459 | 250 131 | 5 176 | 1 305 958 | 4 235 724 | 37 827 661 | 11,20% |
| North West | 1 906 380 | 985 937 | 395 204 | 79 428 | 3 366 949 | 10 523 812 | 31,99% |
| Western Cape | 843 066 | 0 | 0 | 1 207 426 | 2 050 492 | 13 152 154 | 15,59% |
| Total (ha) | 13 355 984 | 8 484 170 | 2 411 563 | 5 292 628 | 29 544 346 | 122 934 144 | 24,03% |
| Total | 10,86% | 6,90% | 1,96% | 4,31% | 24,03% | 100,00% | 24,03% |




Land cover summary: Cultivated land

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Cultivated commercial fields | 544 610 | 3,22% | 488 522 | 2,89% | -10,30% |
| Cultivated commercial pivot | 10 144 | 0,06% | 52 203 | 0,31% | 414,61% |
| Cultivated orchard and vines | 58 351 | 0,34% | 47 758 | 0,28% | -18,15% |
| Sugar cane | 0 | 0,00% | 0 | 0,00% | 0,00% |
| Subsistence farming | 721 403 | 4,26% | 767 939 | 4,54% | 6,45% |
| Total | 1 334 509 | 7,88% | 1 356 422 | 8,01% | 1,64% |

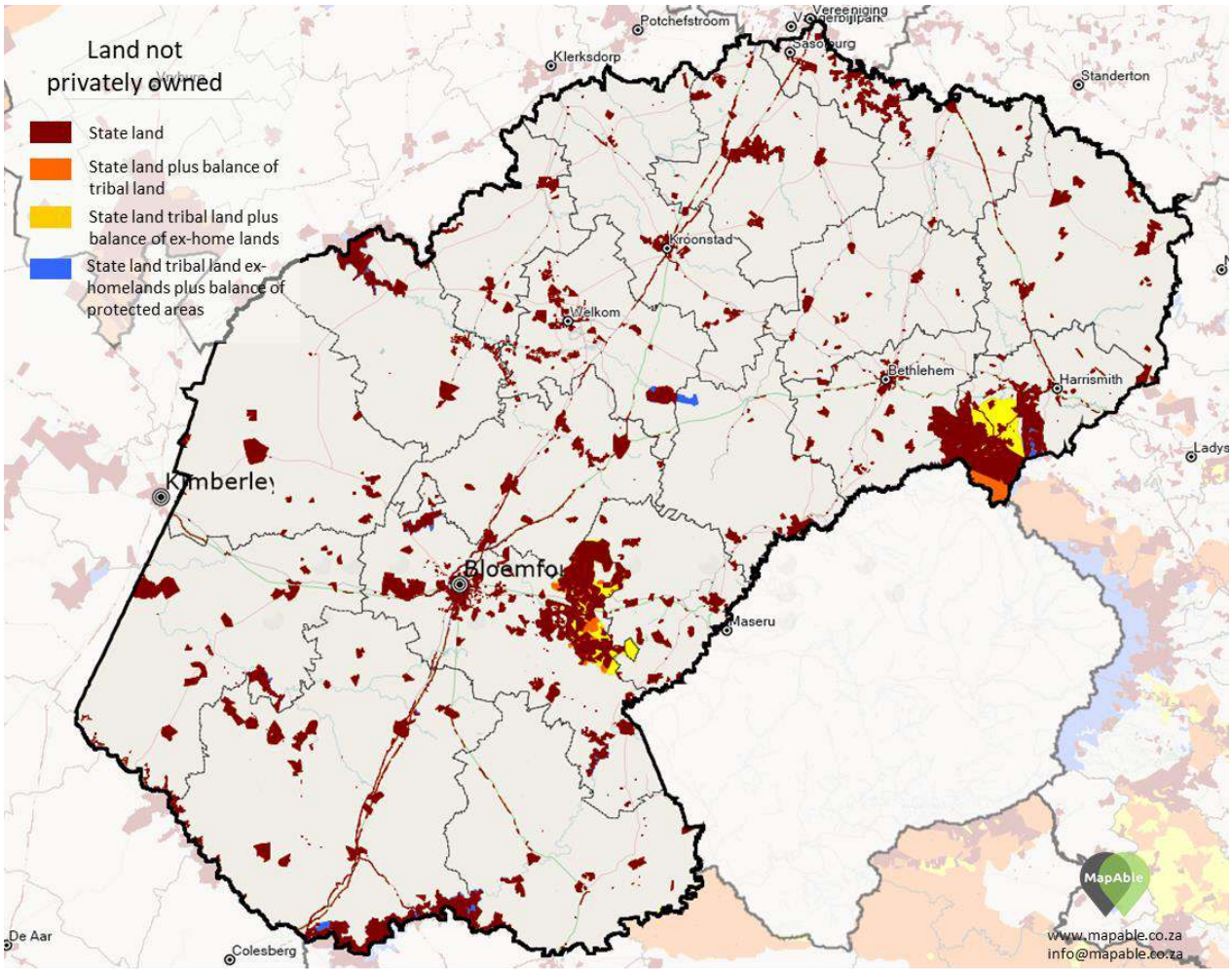



Land cover summary: Other land

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Urban built-up | 14 421 | 0,09% | 13 714 | 0,08% | -4,90% |
| Commercial | 3 308 | 0,02% | 3 775 | 0,02% | 14,14% |
| Industrial | 5 252 | 0,03% | 4 746 | 0,03% | -9,62% |
| Residential | 28 317 | 0,17% | 29 320 | 0,17% | 3,54% |
| Small holdings | 11 223 | 0,07% | 10 434 | 0,06% | -7,03% |
| Townships | 11 789 | 0,07% | 19 977 | 0,12% | 69,46% |
| Informal areas | 1 463 | 0,01% | 2 691 | 0,02% | 83,95% |
| Rural villages | 546 830 | 3,23% | 519 766 | 3,07% | -4,95% |
| Sport and recreation | 9 470 | 0,06% | 9 530 | 0,06% | 0,63% |
| Total | 632 073 | 3,73% | 613 954 | 3,63% | -2,87% |

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Mining | 3 849 | 0,02% | 4 155 | 0,02% | 7,96% |

2. Free State

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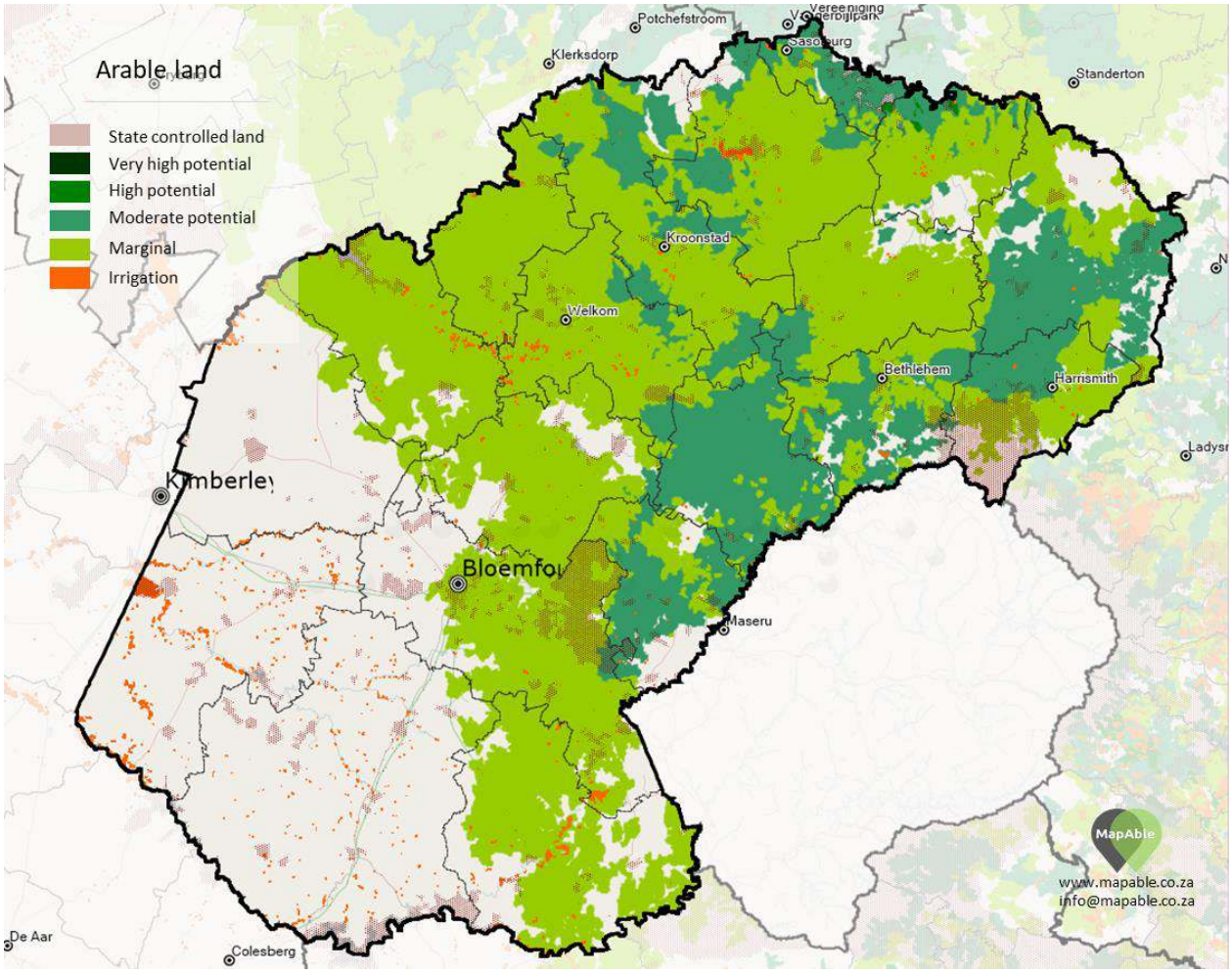
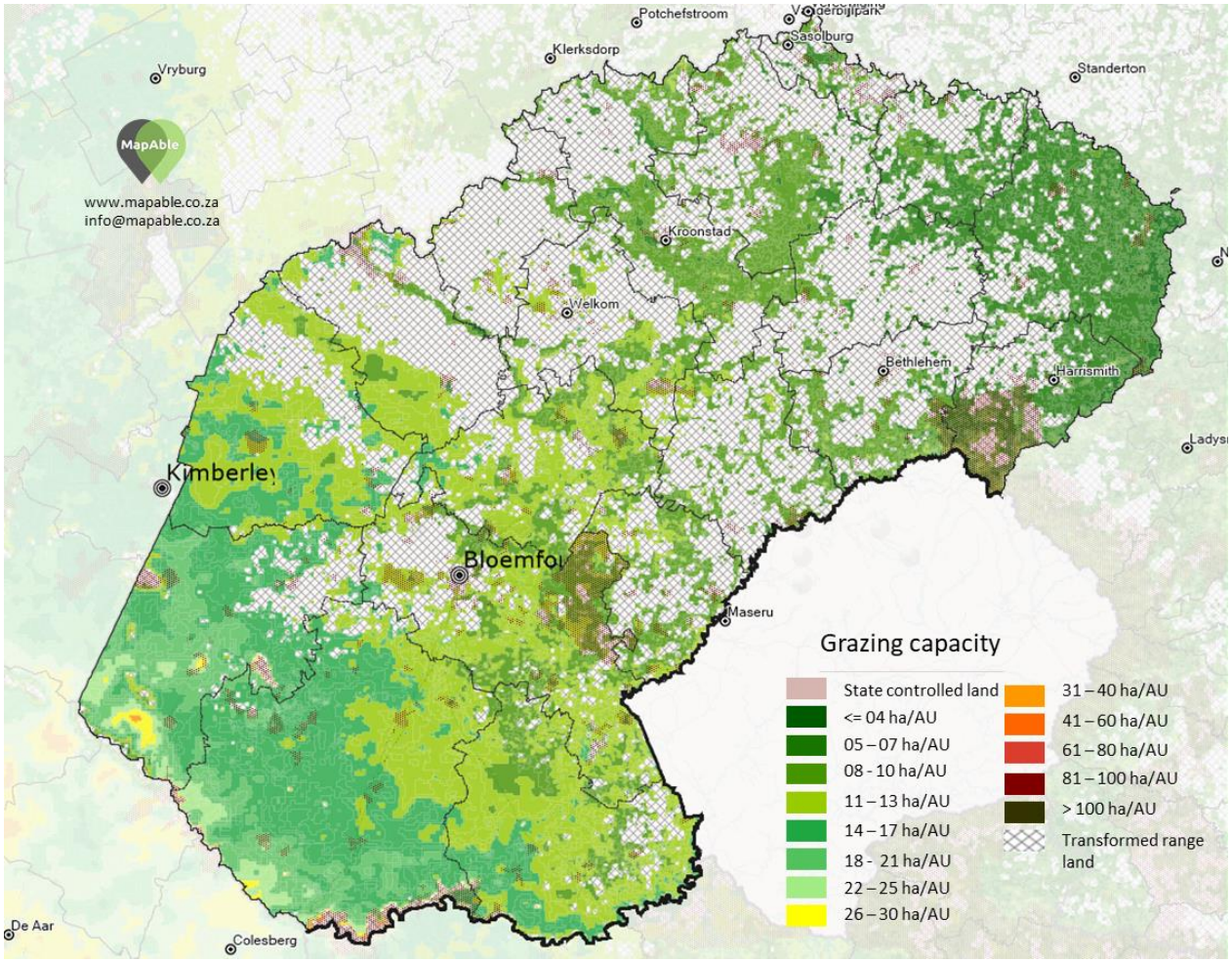
|---|---|---|---|---|---|---|---|
| A | B | C | D | E | F | G | H |
| Eastern Cape | 931 660 | 3 753 072 | 833 792 | 348 392 | 5 866 916 | 16 930 984 | 34,65% |
| Free State | 729 484 | 29 394 | 69 468 | 22 386 | 850 733 | 13 001 148 | 6,54% |
| Gauteng | 270 383 | 3 415 | 30 484 | 57 634 | 361 916 | 1 818 249 | 19,90% |
| KwaZulu-Natal | 1 957 858 | 1 891 568 | 505 390 | 586 090 | 4 940 907 | 9 445 102 | 52,31% |
| Limpopo | 2 429 635 | 1 303 988 | 496 218 | 1 136 637 | 5 366 478 | 12 580 603 | 42,66% |
| Mpumalanga | 1 613 060 | 266 666 | 75 830 | 48 675 | 2 504 231 | 7 654 431 | 32,72% |
| Northern Cape | 2 674 459 | 250 131 | 5 176 | 1 305 958 | 4 235 724 | 37 827 661 | 11,20% |
| North West | 1 906 380 | 985 937 | 395 204 | 79 428 | 3 366 949 | 10 523 812 | 31,99% |
| Western Cape | 843 066 | 0 | 0 | 1 207 426 | 2 050 492 | 13 152 154 | 15,59% |
| Total (ha) | 13 355 984 | 8 484 170 | 2 411 563 | 5 292 628 | 29 544 346 | 122 934 144 | 24,03% |
| Total | 10,86% | 6,90% | 1,96% | 4,31% | 24,03% | 100,00% | 24,03% |




Land cover summary: Cultivated land

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Cultivated commercial fields | 3 793 952 | 29,18% | 3 603 802 | 27,72% | -5,01% |
| Cultivated commercial pivot | 27 612 | 0,21% | 163 103 | 1,25% | 490,69% |
| Cultivated orchard and vines | 2 328 | 0,02% | 3 438 | 0,03% | 47,68% |
| Sugar cane | | 0,00% | | 0,00% | 0,00% |
| Subsistence farming | 18 866 | 0,15% | 30 328 | 0,23% | 60,75% |
| Total | 3 842 759 | 29,56% | 3 800 671 | 29,23% | -1,10% |

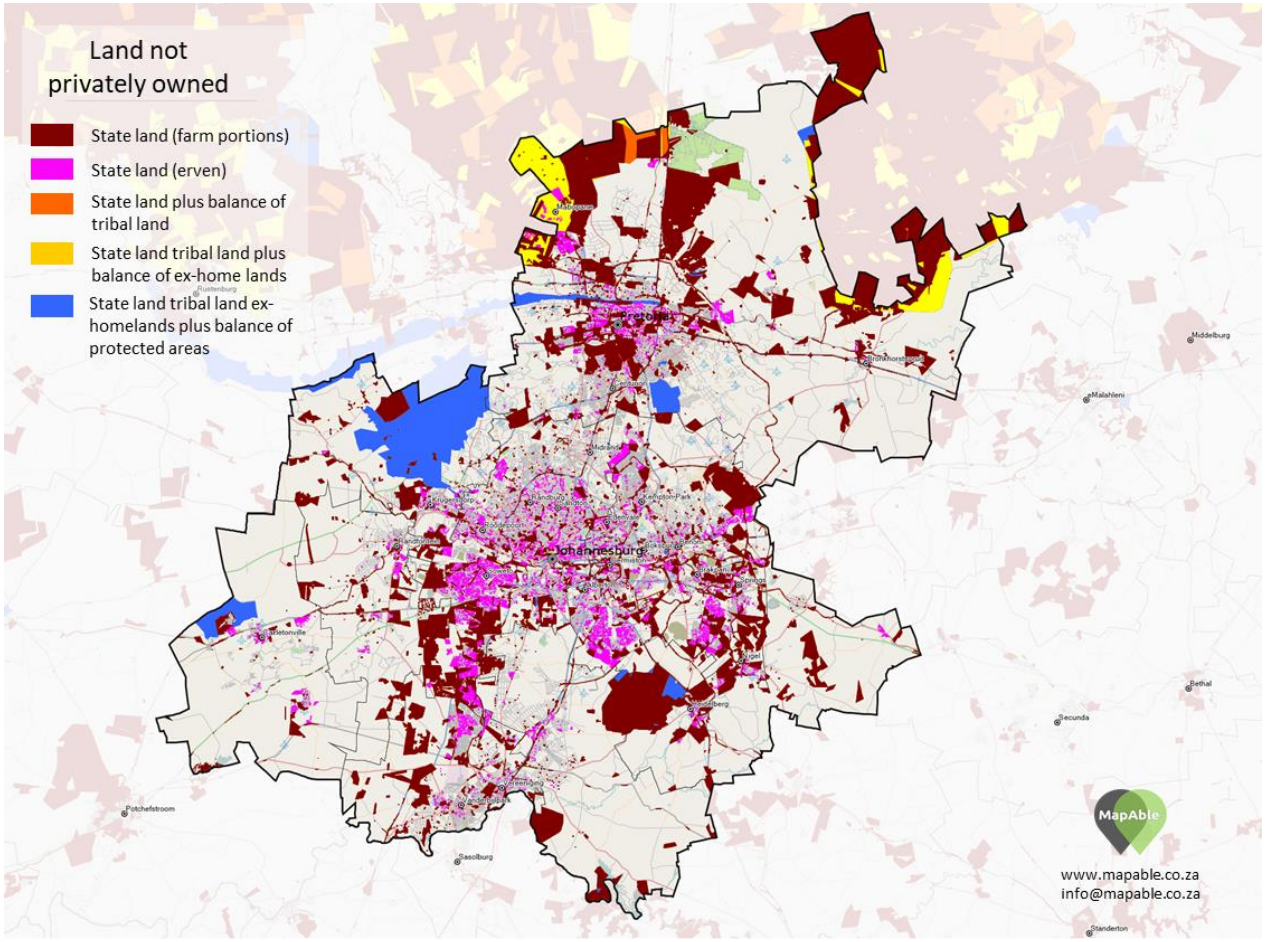



Land cover summary: Other land

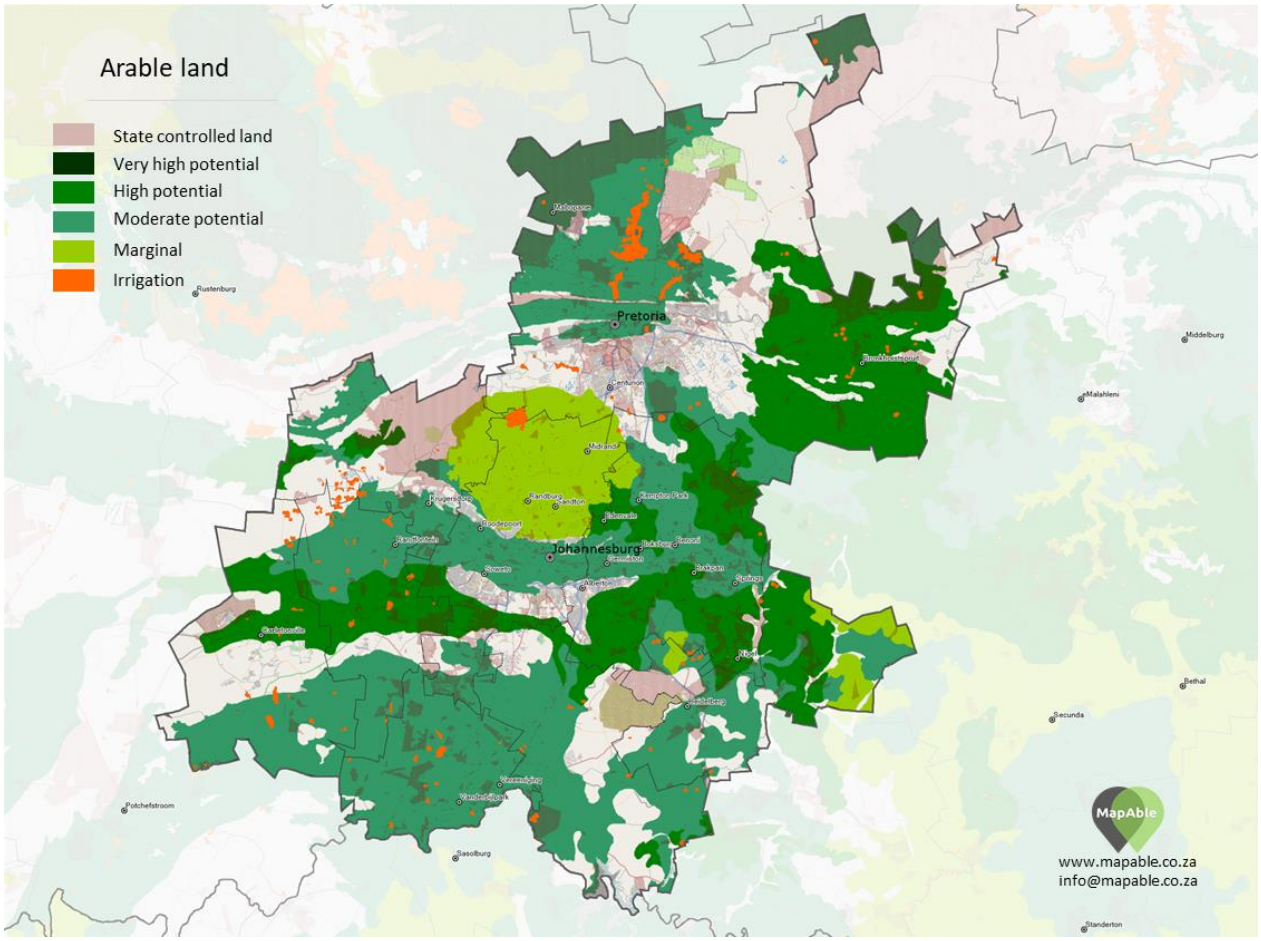
| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Urban built-up | 1 029 | 0,01% | 3 177 | 0,02% | 208,93% |
| Commercial | 3 436 | 0,03% | 3 800 | 0,03% | 10,58% |
| Industrial | 4 818 | 0,04% | 3 675 | 0,03% | -23,71% |
| Residential | 21 093 | 0,16% | 19 995 | 0,15% | -5,21% |
| Small holdings | 28 182 | 0,22% | 27 395 | 0,21% | -2,80% |
| Townships | 23 089 | 0,18% | 33 914 | 0,26% | 46,88% |
| Informal areas | 339 | 0,00% | 3 099 | 0,02% | 813,03% |
| Rural villages | 1 932 | 0,01% | 2 061 | 0,02% | 6,68% |
| Sport and recreation | 5 853 | 0,05% | 6 467 | 0,05% | 10,48% |
| Total | 89 772 | 0,69% | 103 583 | 0,80% | 15,38% |

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Mining | 24 264 | 0,19% | 23 950 | 0,18% | -1,29% |

3. Gauteng

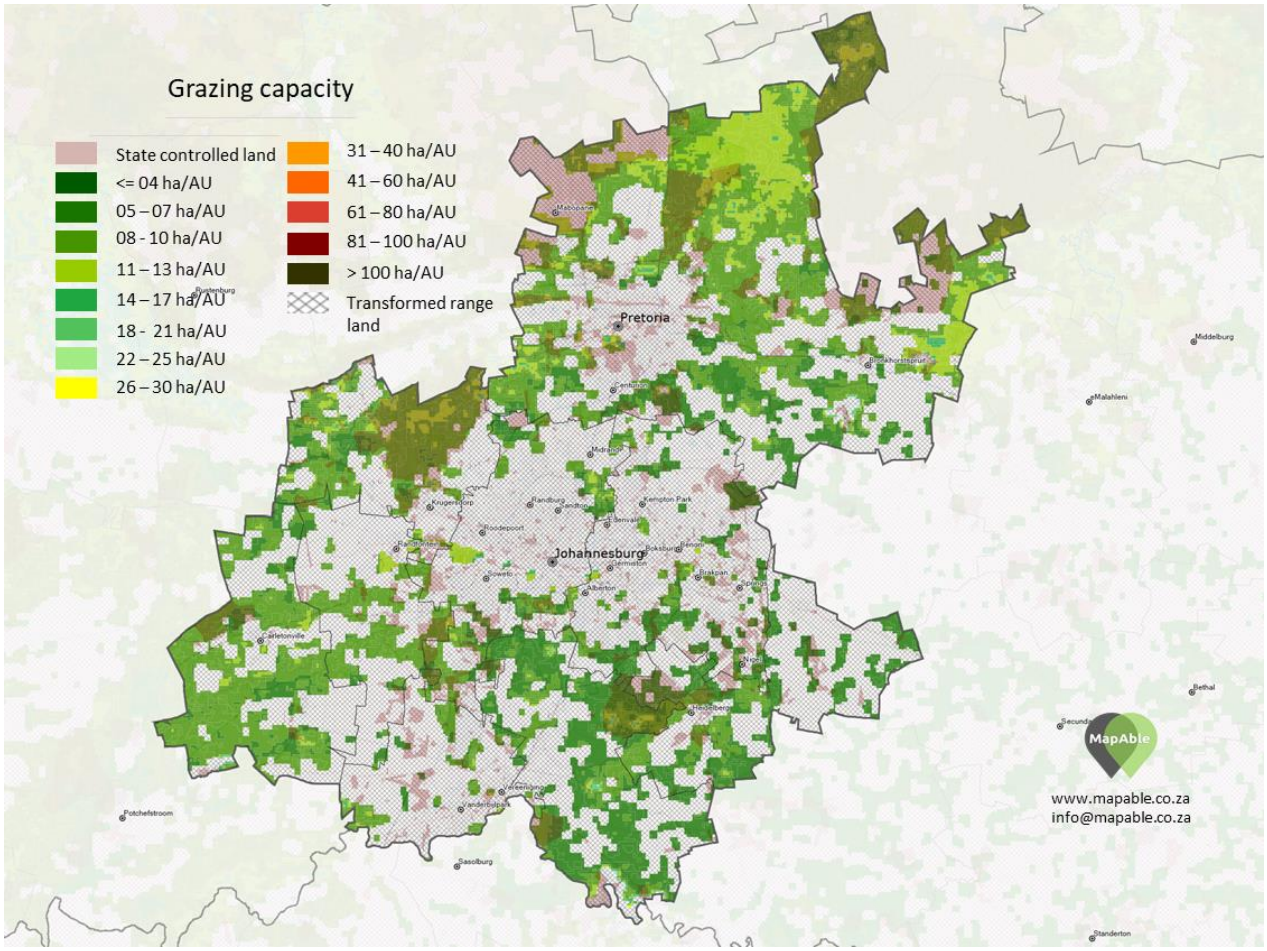



| Province | State land | The remainder of tribal land not included in column B | The remainder of ex-homelands not included in columns B and C | The remainder of protected areas not included in columns B, C and D | Total land under state control | The total area of the Province | State land as % of the total land area |
|---|---|---|---|---|---|---|---|
| A | B | C | D | E | F | G | H |
| Eastern Cape | 931 660 | 3 753 072 | 833 792 | 348 392 | 5 866 916 | 16 930 984 | 34,65% |
| Free State | 729 484 | 29 394 | 69 468 | 22 386 | 850 733 | 13 001 148 | 6,54% |
| Gauteng | 270 383 | 3 415 | 30 484 | 57 634 | 361 916 | 1 818 249 | 19,90% |
| KwaZulu-Natal | 1 957 858 | 1 891 568 | 505 390 | 586 090 | 4 940 907 | 9 445 102 | 52,31% |
| Limpopo | 2 429 635 | 1 303 988 | 496 218 | 1 136 637 | 5 366 478 | 12 580 603 | 42,66% |
| Mpumalanga | 1 613 060 | 266 666 | 75 830 | 48 675 | 2 504 231 | 7 654 431 | 32,72% |
| Northern Cape | 2 674 459 | 250 131 | 5 176 | 1 305 958 | 4 235 724 | 37 827 661 | 11,20% |
| North West | 1 906 380 | 985 937 | 395 204 | 79 428 | 3 366 949 | 10 523 812 | 31,99% |
| Western Cape | 843 066 | 0 | 0 | 1 207 426 | 2 050 492 | 13 152 154 | 15,59% |
| Total (ha) | 13 355 984 | 8 484 170 | 2 411 563 | 5 292 628 | 29 544 346 | 122 934 144 | 24,03% |
| Total | 10,86% | 6,90% | 1,96% | 4,31% | 24,03% | 100,00% | 24,03% |




Land cover summary: Cultivated land

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Cultivated commercial fields | 400 603 | 22,03% | 380 337 | 20,92% | -5,06% |
| Cultivated commercial pivot | 6 858 | 0,38% | 21 521 | 1,18% | 213,83% |
| Cultivated orchard and vines | 1 065 | 0,06% | 1 687 | 0,09% | 58,36% |
| Sugar cane | | 0,00% | | 0,00% | 0,00% |
| Subsistence farming | 2 688 | 0,15% | 1 200 | 0,07% | -55,37% |
| Total | 411 214 | 22,62% | 404 744 | 22,26% | -1,57% |

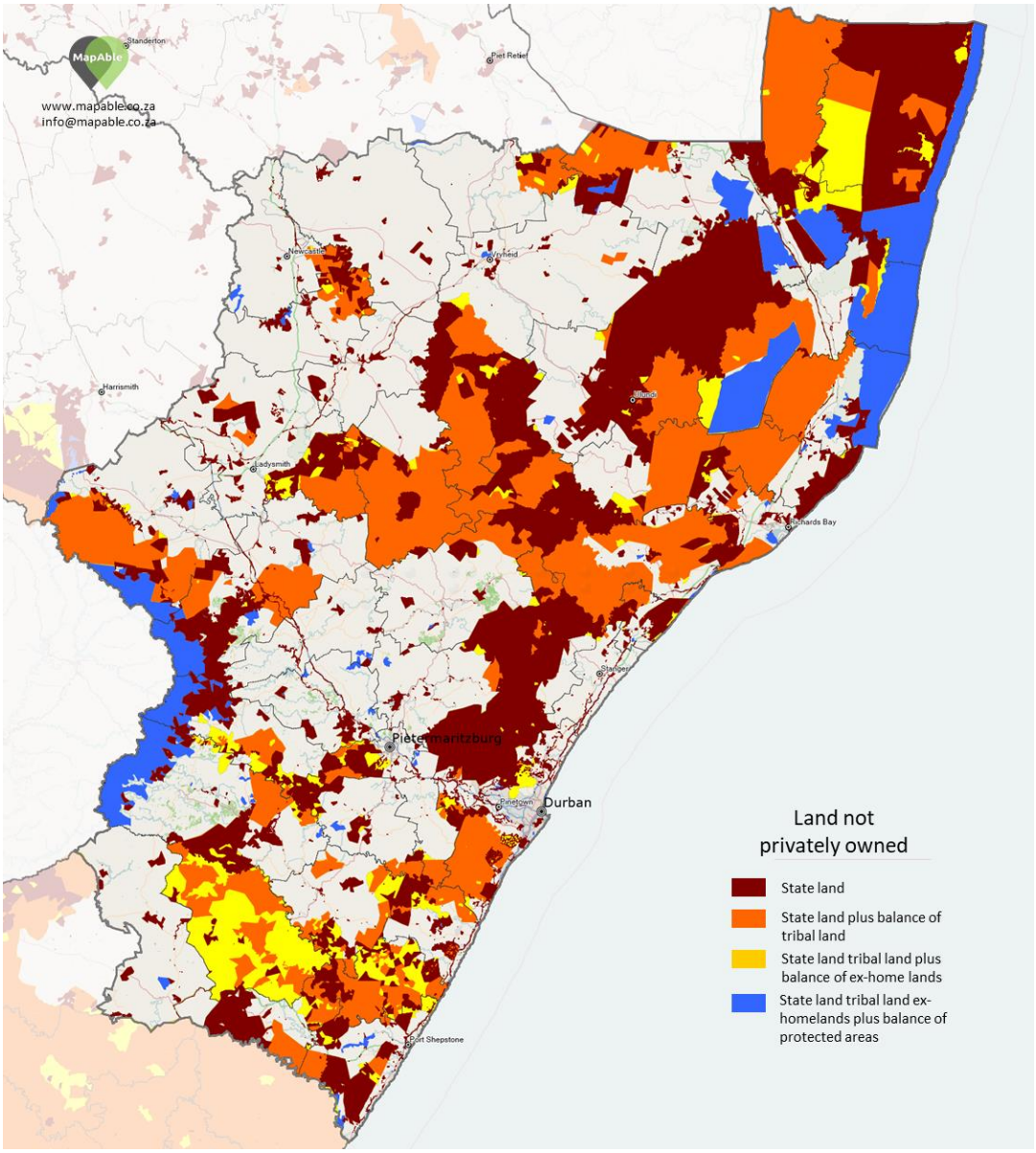



Land cover summary: Other

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Urban built-up | 21 432 | 1,18% | 28 676 | 1,58% | 33,80% |
| Commercial | 12 265 | 0,67% | 14 372 | 0,79% | 17,18% |
| Industrial | 16 343 | 0,90% | 15 275 | 0,84% | -6,53% |
| Residential | 96 242 | 5,29% | 101 380 | 5,58% | 5,34% |
| Small holdings | 121 667 | 6,69% | 106 531 | 5,86% | -12,44% |
| Townships | 19 594 | 1,08% | 36 230 | 1,99% | 84,91% |
| Informal areas | 9 987 | 0,55% | 22 216 | 1,22% | 122,44% |
| Rural villages | 3 173 | 0,17% | 5 529 | 0,30% | 74,25% |
| Sport and recreation | 17 054 | 0,94% | 20 754 | 1,14% | 21,70% |
| Total | 317 757 | 17,48% | 350 962 | 19,30% | 10,45% |

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Mining | 24 618 | 1,35% | 20 881 | 1,15% | -15,18% |

4. KwaZulu-Natal

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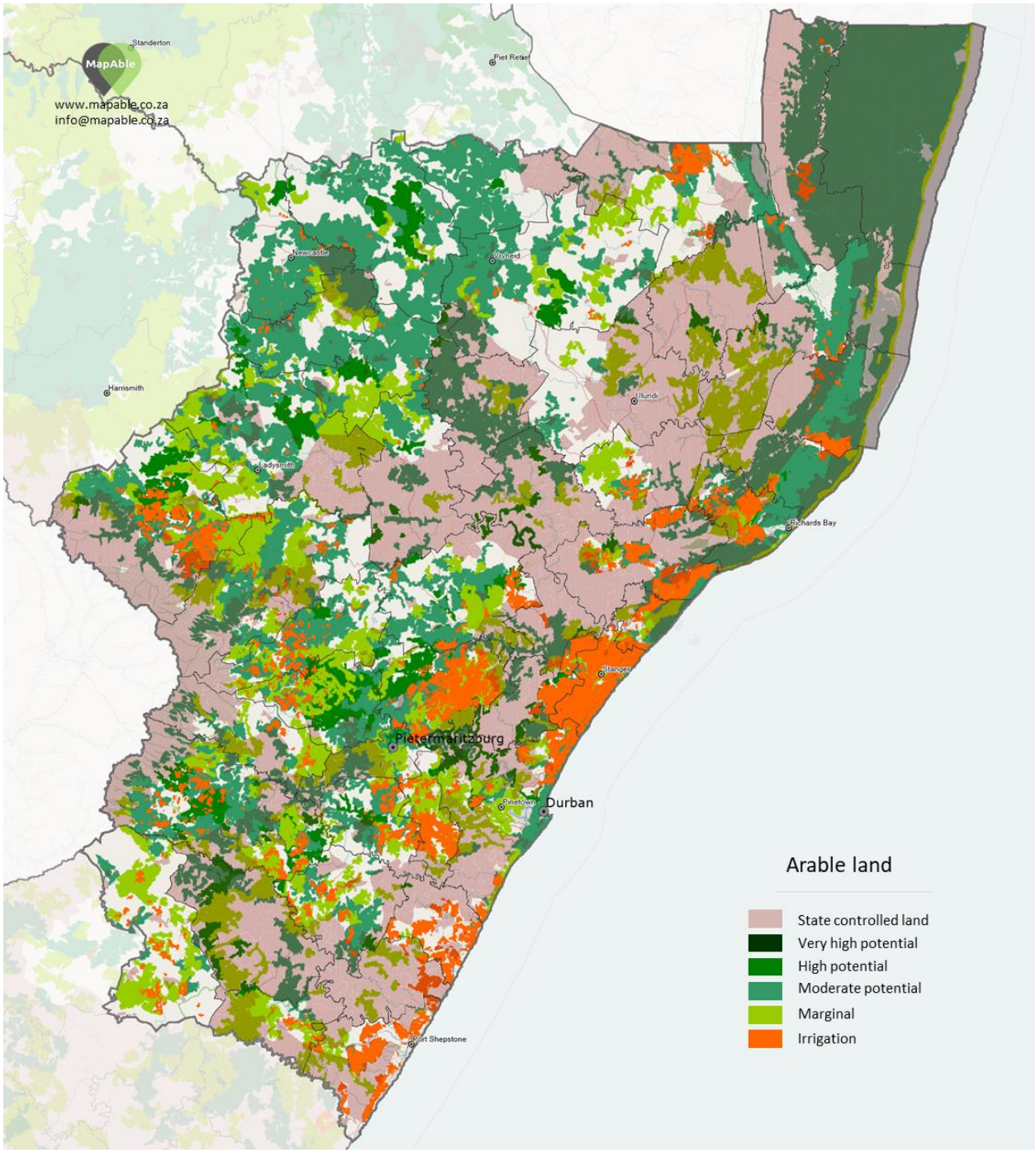
| Free State | 729 484 | 29 394 | 69 468 | 22 386 | 850 733 | 13 001 148 | 6,54% |
| Gauteng | 270 383 | 3 415 | 30 484 | 57 634 | 361 916 | 1 818 249 | 19,90% |
| KwaZulu-Natal | 1 957 858 | 1 891 568 | 505 390 | 586 090 | 4 940 907 | 9 445 102 | 52,31% |
| Limpopo | 2 429 635 | 1 303 988 | 496 218 | 1 136 637 | 5 366 478 | 12 580 603 | 42,66% |
| Mpumalanga | 1 613 060 | 266 666 | 75 830 | 48 675 | 2 504 231 | 7 654 431 | 32,72% |
| Northern Cape | 2 674 459 | 250 131 | 5 176 | 1 305 958 | 4 235 724 | 37 827 661 | 11,20% |
| North West | 1 906 380 | 985 937 | 395 204 | 79 428 | 3 366 949 | 10 523 812 | 31,99% |
| Western Cape | 843 066 | 0 | 0 | 1 207 426 | 2 050 492 | 13 152 154 | 15,59% |
| Total (ha) | 13 355 984 | 8 484 170 | 2 411 563 | 5 292 628 | 29 544 346 | 122 934 144 | 24,03% |

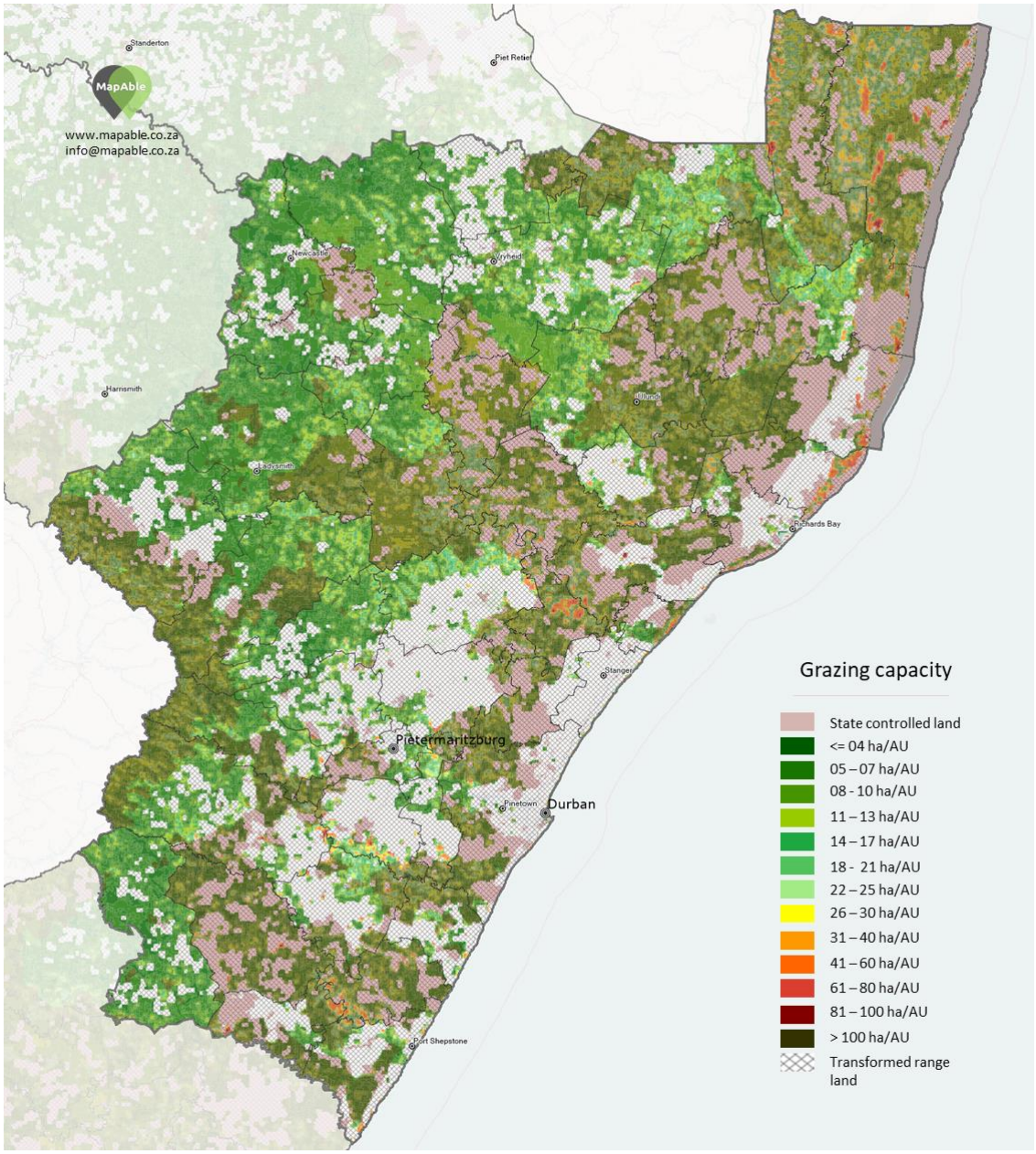
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Total | 10,86% | 6,90% | 1,96% | 4,31% | 24,03% | 100,00% | 24,03% |




Land cover summary: Cultivated land

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Cultivated commercial fields | 385 508 | 4,08% | 401 769 | 4,25% | 4,22% |
| Cultivated commercial pivot | 16 166 | 0,17% | 61 596 | 0,65% | 281,02% |
| Cultivated orchard and vines | 24 323 | 0,26% | 24 767 | 0,26% | 1,83% |
| Sugar cane | 332 064 | 3,52% | 408 250 | 4,32% | 22,94% |
| Subsistence farming | 409 356 | 4,33% | 533 677 | 5,65% | 30,37% |

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Total | 1 167 417 | 12,36% | 1 430 059 | 15,14% | 22,50% |



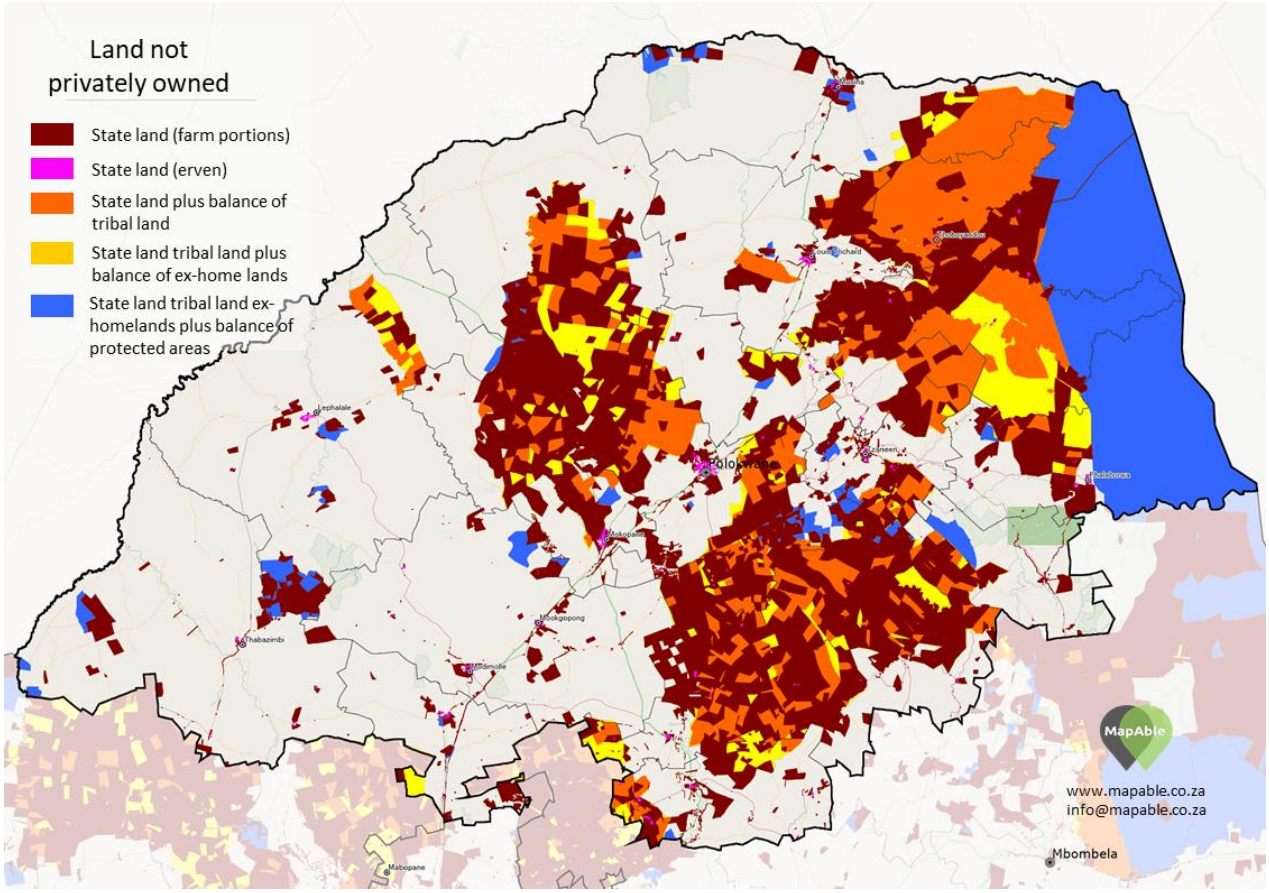

Land cover summary: Other land

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Urban built-up | 489 | 0,01% | 2 068 | 0,02% | 323,16% |
| Commercial | 7 865 | 0,08% | 9 415 | 0,10% | 19,70% |
| Industrial | 9 918 | 0,11% | 9 470 | 0,10% | -4,52% |
| Residential | 56 218 | 0,60% | 54 293 | 0,57% | -3,42% |
| Small holdings | 12 682 | 0,13% | 11 351 | 0,12% | -10,49% |
| Townships | 18 908 | 0,20% | 22 864 | 0,24% | 20,92% |
| Informal areas | 10 421 | 0,11% | 12 703 | 0,13% | 21,90% |
| Rural villages | 710 313 | 7,52% | 655 581 | 6,94% | -7,71% |
| Sport and recreation | 8 753 | 0,09% | 9 123 | 0,10% | 4,23% |

| Land cover category | 1990 Area (ha) | 1990 % of province | 2014 Area (ha) | 2014 % of province | % change |
|---|---|---|---|---|---|
| Total | 835 566 | 8,85% | 786 868 | 8,33% | -5,83% |

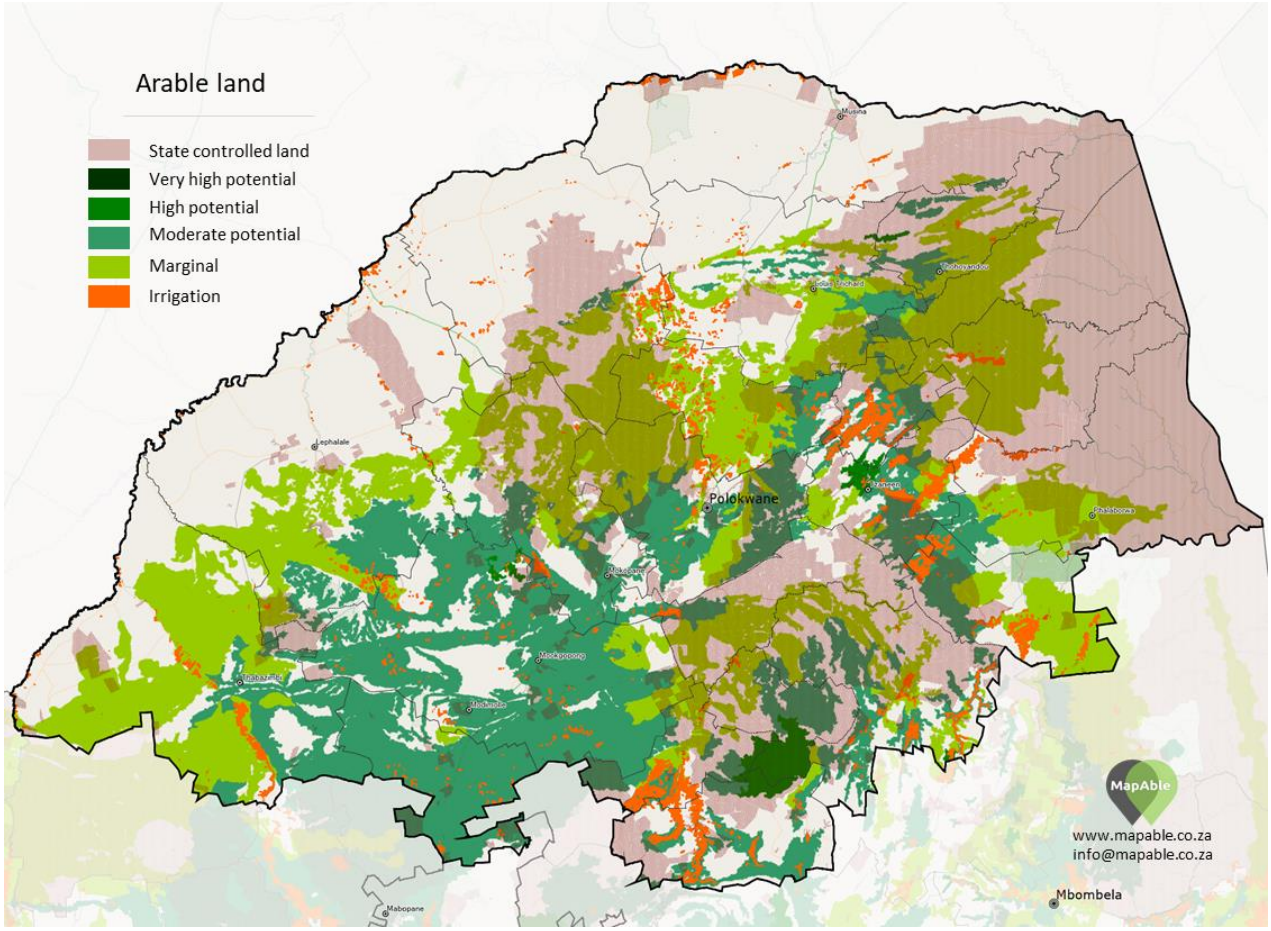
| Land cover category | 1990 Area (ha) | 1990 % of province | 2014 Area (ha) | 2014 % of province | % change |
|---|---|---|---|---|---|
| Mining | 5 366 | 0,06% | 5 553 | 0,22% | -15,18% |

5. Limpopo



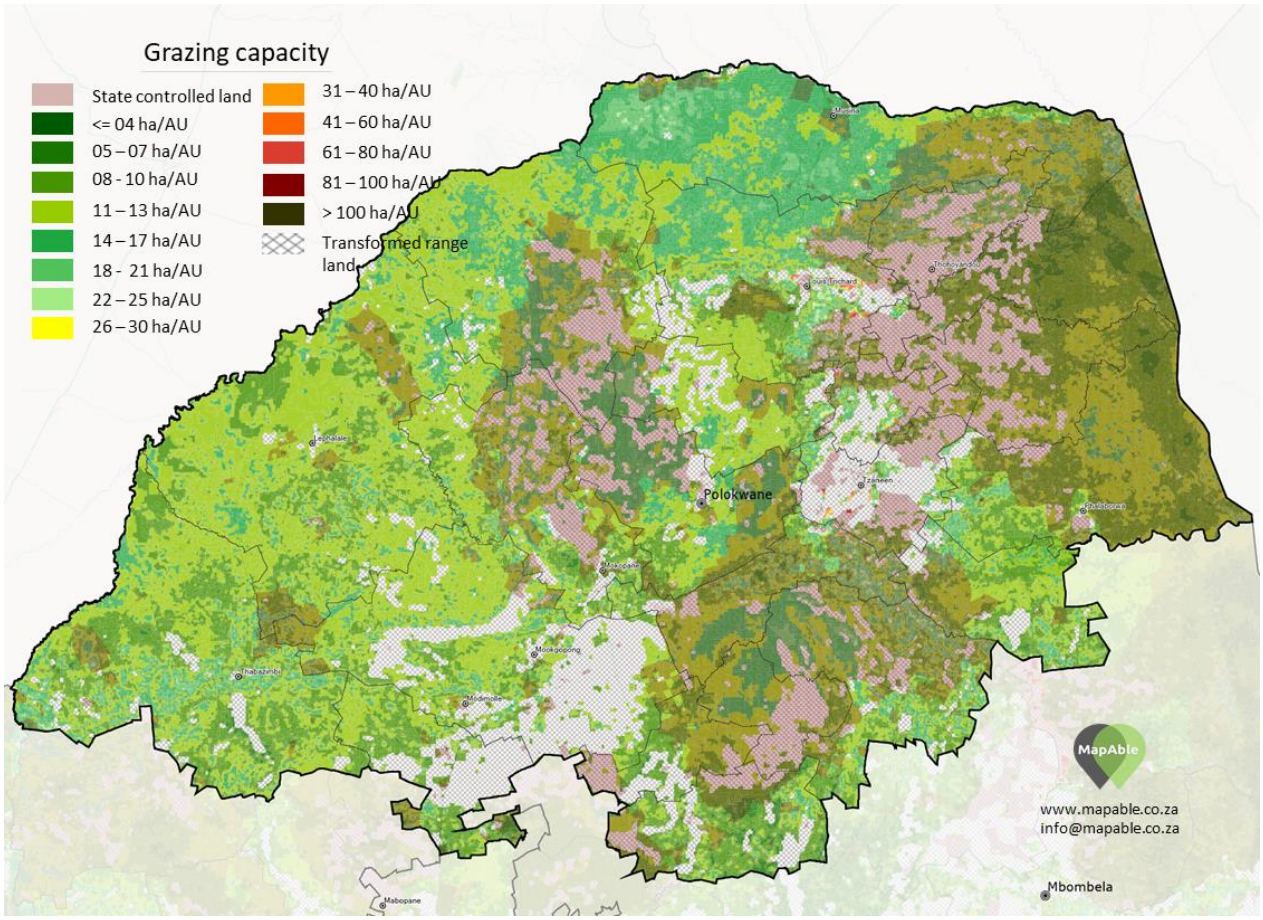

| Province | State land | The remainder of tribal land not included in column B | The remainder of ex-homelands not included in columns B and C | The remainder of protected areas not included in columns B, C and D | Total land under state control | The total area of the Province | State land as % of the total land area |
|---|---|---|---|---|---|---|---|
| A | B | C | D | E | F | G | H |
| Eastern Cape | 931 660 | 3 753 072 | 833 792 | 348 392 | 5 866 916 | 16 930 984 | 34,65% |
| Free State | 729 484 | 29 394 | 69 468 | 22 386 | 850 733 | 13 001 148 | 6,54% |
| Gauteng | 270 383 | 3 415 | 30 484 | 57 634 | 361 916 | 1 818 249 | 19,90% |
| KwaZulu-Natal | 1 957 858 | 1 891 568 | 505 390 | 586 090 | 4 940 907 | 9 445 102 | 52,31% |
| Limpopo | 2 429 635 | 1 303 988 | 496 218 | 1 136 637 | 5 366 478 | 12 580 603 | 42,66% |
| Mpumalanga | 1 613 060 | 266 666 | 75 830 | 48 675 | 2 504 231 | 7 654 431 | 32,72% |
| Northern Cape | 2 674 459 | 250 131 | 5 176 | 1 305 958 | 4 235 724 | 37 827 661 | 11,20% |
| North West | 1 906 380 | 985 937 | 395 204 | 79 428 | 3 366 949 | 10 523 812 | 31,99% |
| Western Cape | 843 066 | 0 | 0 | 1 207 426 | 2 050 492 | 13 152 154 | 15,59% |
| Total (ha) | 13 355 984 | 8 484 170 | 2 411 563 | 5 292 628 | 29 544 346 | 122 934 144 | 24,03% |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Total | 10,86% | 6,90% | 1,96% | 4,31% | 24,03% | 100,00% | 24,03% |




Land cover summary: Cultivated land

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Cultivated commercial fields | 712 868 | 5,67% | 570 040 | 4,53% | -20,04% |
| Cultivated commercial pivot | 78 213 | 0,62% | 167 734 | 1,33% | 114,46% |
| Cultivated orchard and vines | 77 850 | 0,62% | 109 118 | 0,87% | 40,16% |
| Sugar cane | | 0,00% | | 0,00% | 0,00% |
| Subsistence farming | 465 597 | 3,70% | 404 765 | 3,22% | -13,07% |
| Total | 1 334 527 | 10,61% | 1 251 657 | 9,95% | -6,21% |

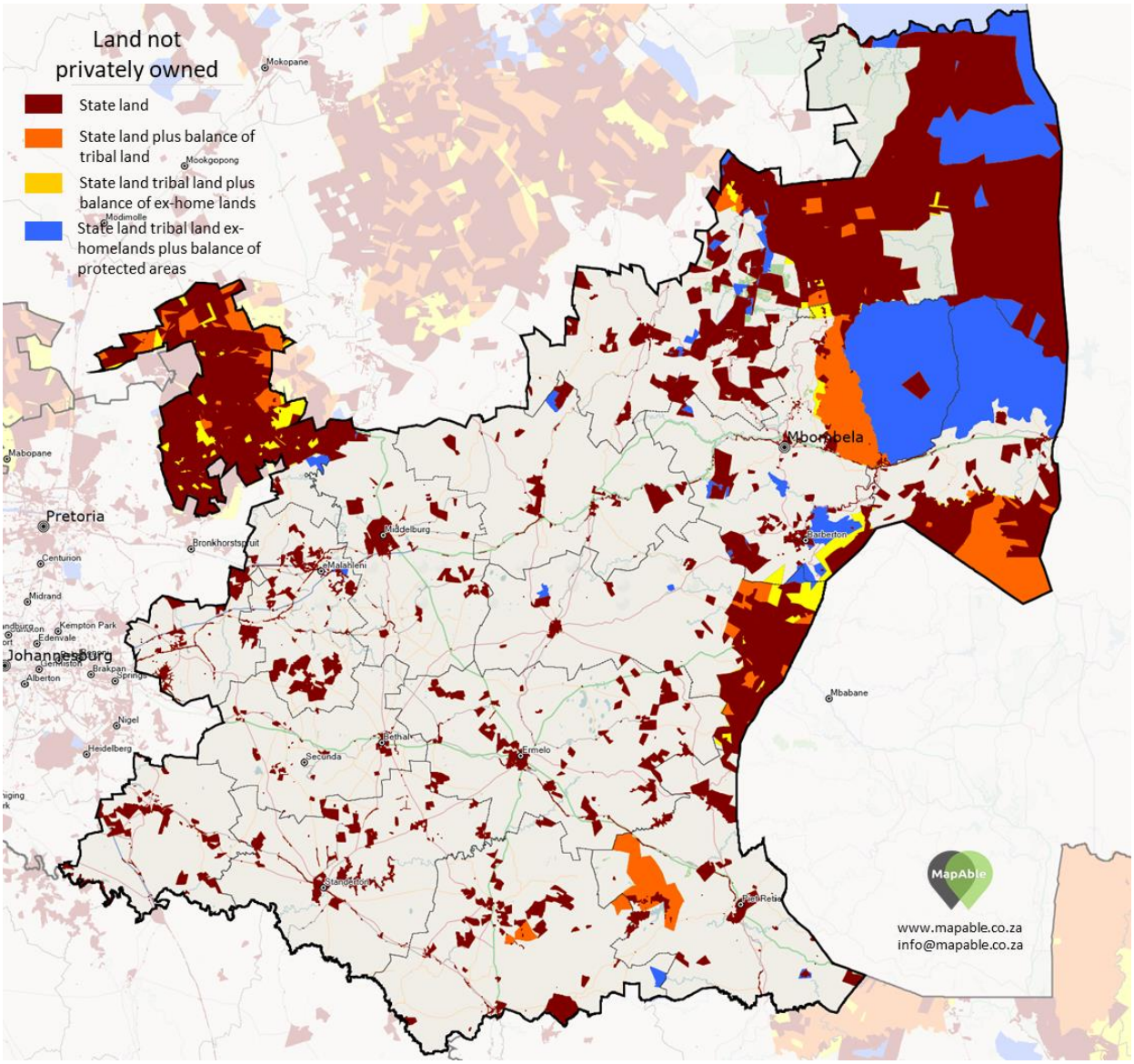



Land cover summary: Other uses

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Urban built-up | 12 271 | 0,10% | 12 635 | 0,10% | 2,97% |
| Commercial | 1 987 | 0,02% | 2 383 | 0,02% | 19,94% |
| Industrial | 1 527 | 0,01% | 2 158 | 0,02% | 41,34% |
| Residential | 8 051 | 0,06% | 10 435 | 0,08% | 29,62% |
| Small holdings | 27 585 | 0,22% | 46 807 | 0,37% | 69,68% |
| Townships | 5 244 | 0,04% | 11 731 | 0,09% | 123,71% |
| Informal areas | 117 | 0,00% | 813 | 0,01% | 595,68% |
| Rural villages | 293 928 | 2,34% | 363 433 | 2,89% | 23,65% |
| Sport and recreation | 2 908 | 0,02% | 5 891 | 0,05% | 102,55% |
| Total | 353 618 | 2,81% | 456 286 | 3,63% | 29,03% |

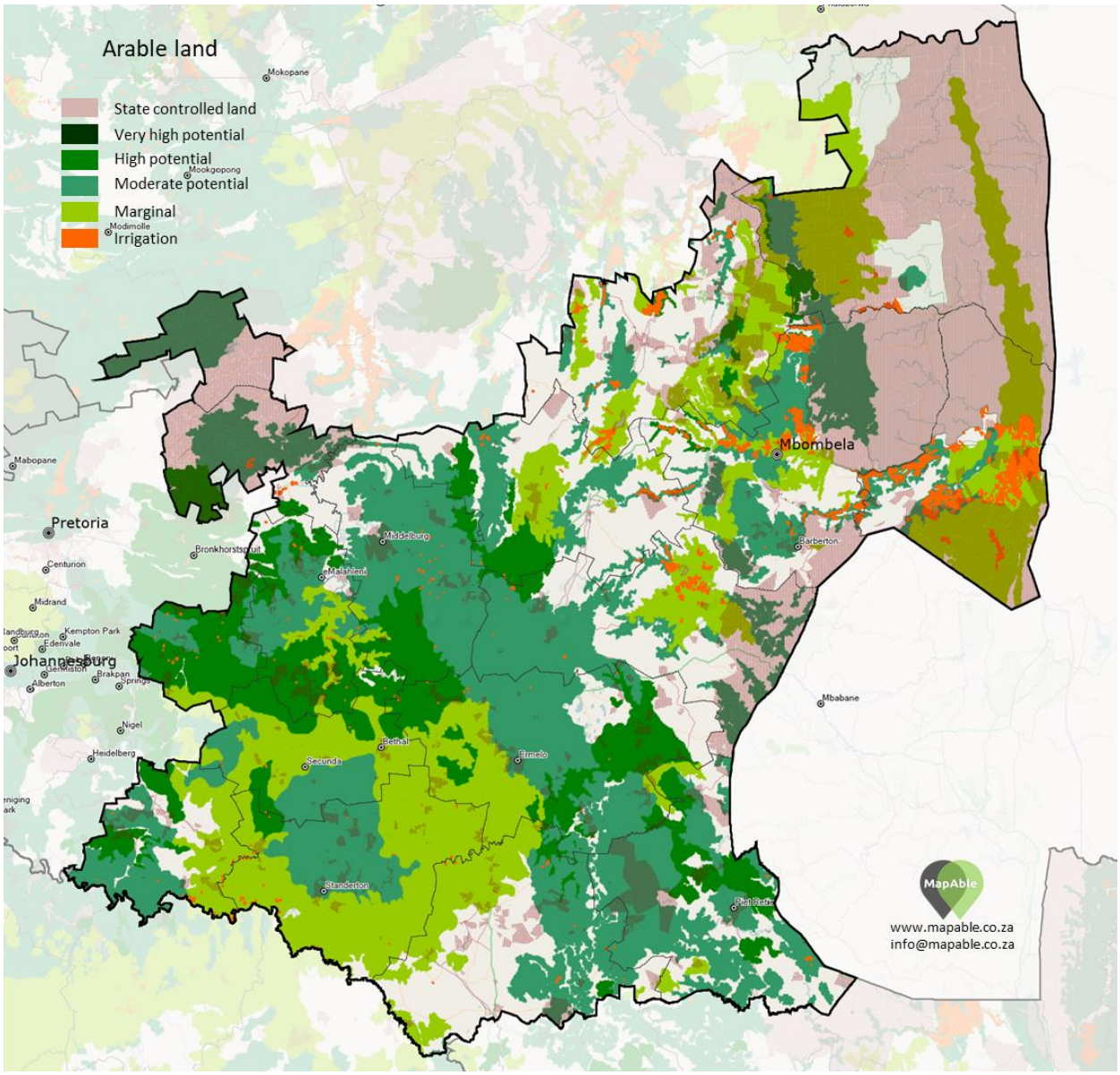
| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | |
| Mining | 28 421 | 0,23% | 28 928 | 0,23% | 1,78% |

6. Mpumalanga



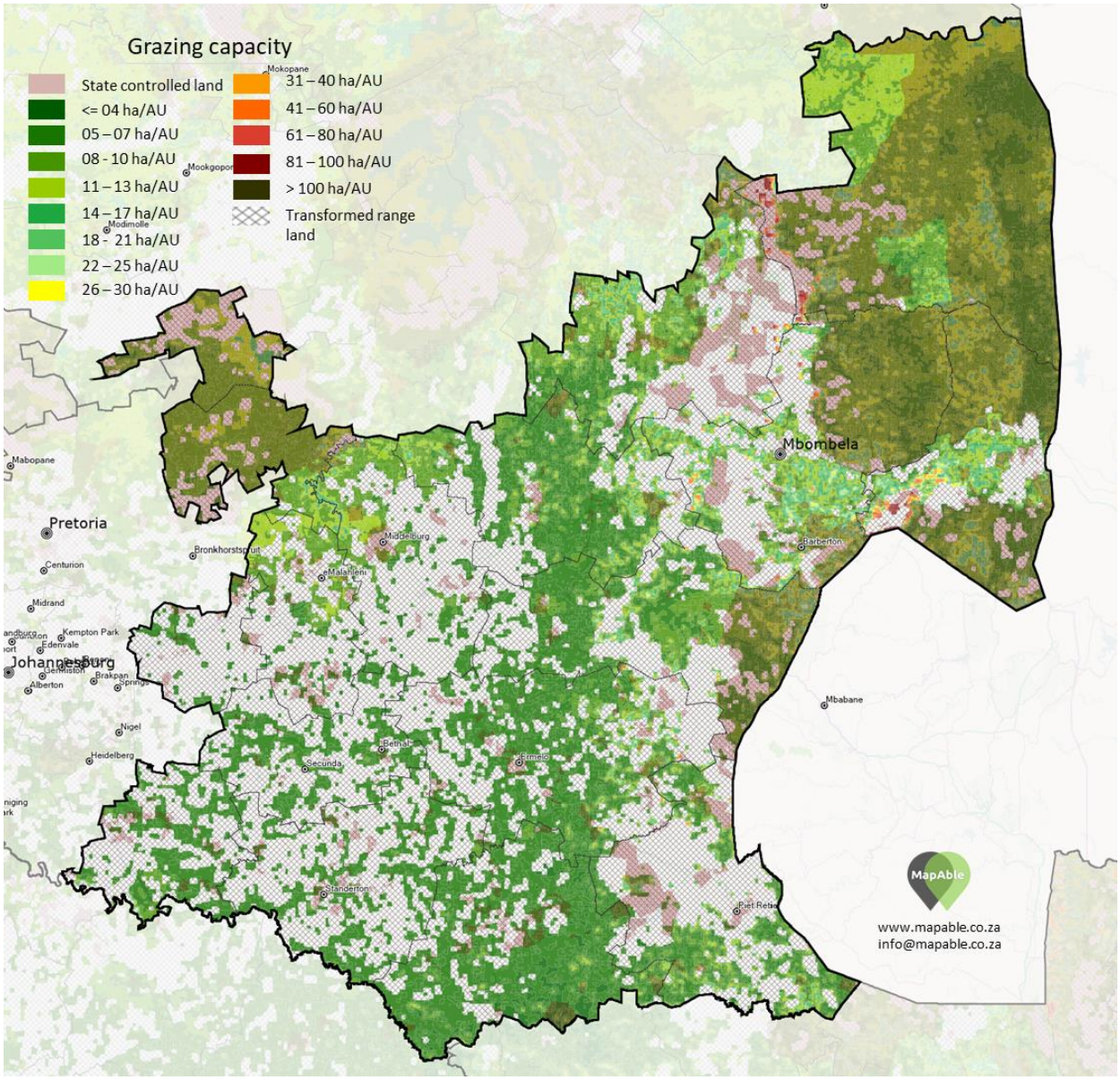

| Province | State land | The remainder of tribal land not included in column B | The remainder of ex-homelands not included in columns B and C | The remainder of protected areas not included in columns B, C and D | Total land under state control | The total area of the Province | State land as % of the total land area |
|---|---|---|---|---|---|---|---|
| A | B | C | D | E | F | G | H |
| Eastern Cape | 931 660 | 3 753 072 | 833 792 | 348 392 | 5 866 916 | 16 930 984 | 34,65% |
| Free State | 729 484 | 29 394 | 69 468 | 22 386 | 850 733 | 13 001 148 | 6,54% |
| Gauteng | 270 383 | 3 415 | 30 484 | 57 634 | 361 916 | 1 818 249 | 19,90% |
| KwaZulu-Natal | 1 957 858 | 1 891 568 | 505 390 | 586 090 | 4 940 907 | 9 445 102 | 52,31% |
| Limpopo | 2 429 635 | 1 303 988 | 496 218 | 1 136 637 | 5 366 478 | 12 580 603 | 42,66% |
| Mpumalanga | 1 613 060 | 266 666 | 75 830 | 48 675 | 2 504 231 | 7 654 431 | 32,72% |
| Northern Cape | 2 674 459 | 250 131 | 5 176 | 1 305 958 | 4 235 724 | 37 827 661 | 11,20% |
| North West | 1 906 380 | 985 937 | 395 204 | 79 428 | 3 366 949 | 10 523 812 | 31,99% |
| Western Cape | 843 066 | 0 | 0 | 1 207 426 | 2 050 492 | 13 152 154 | 15,59% |
| Total (ha) | 13 355 984 | 8 484 170 | 2 411 563 | 5 292 628 | 29 544 346 | 122 934 144 | 24,03% |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Total | 10,86% | 6,90% | 1,96% | 4,31% | 24,03% | 100,00% | 24,03% |




Land cover summary: Cultivated land

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Cultivated commercial fields | 1 272 205 | 16,62% | 1 089 597 | 14,23% | -14,35% |
| Cultivated commercial pivot | 12 258 | 0,16% | 46 586 | 0,61% | 280,04% |
| Cultivated orchard and vines | 31 623 | 0,41% | 42 890 | 0,56% | 35,63% |
| Sugar cane | 35 705 | 0,47% | 61 779 | 0,81% | 73,03% |
| Subsistence farming | 91 815 | 1,20% | 66 849 | 0,87% | -27,19% |
| Total | 1 443 607 | 18,86% | 1 307 702 | 17,08% | -9,41% |

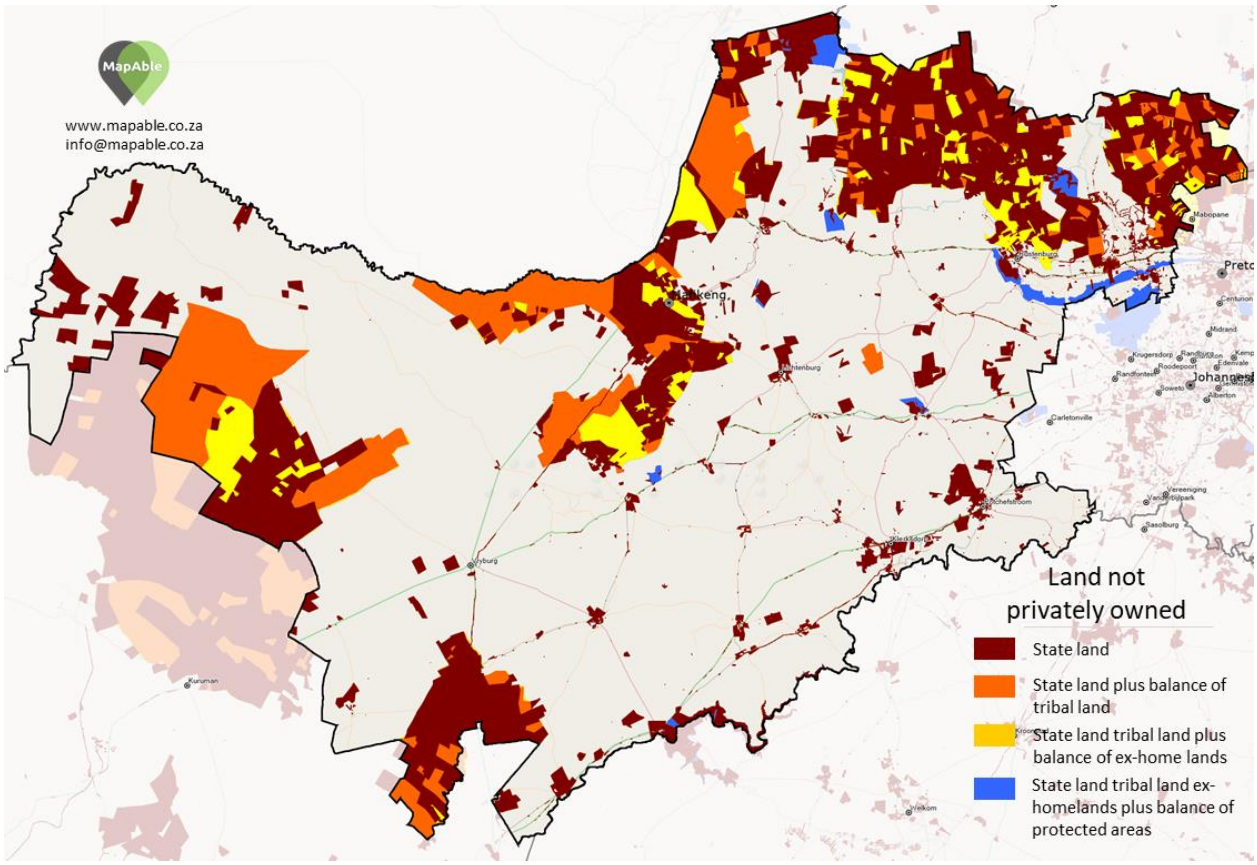



Land cover summary: Other

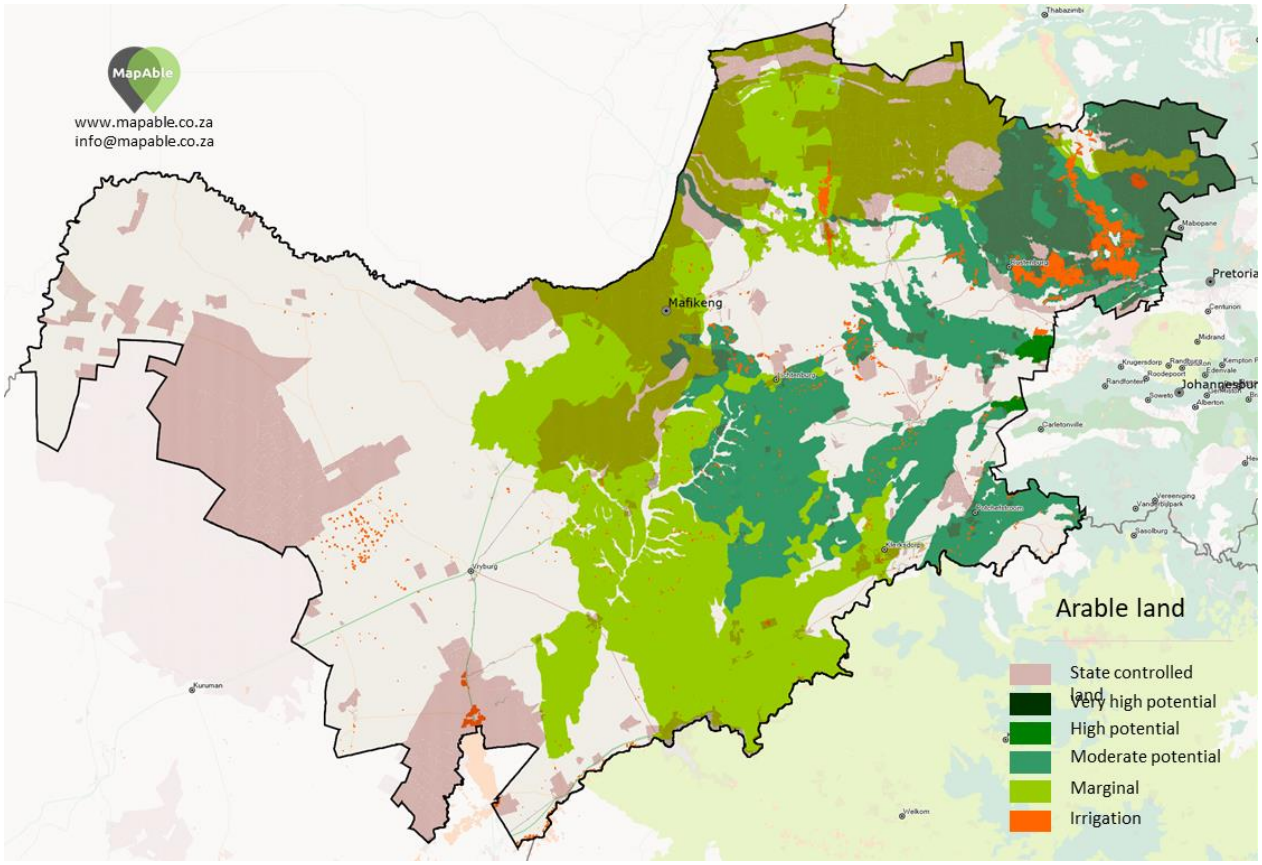
| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Urban built-up | 18 733 | 0,24% | 19 760 | 0,26% | 5,48% |
| Commercial | 2 757 | 0,04% | 3 150 | 0,04% | 14,25% |
| Industrial | 6 744 | 0,09% | 6 909 | 0,09% | 2,45% |
| Residential | 19 941 | 0,26% | 20 927 | 0,27% | 4,95% |
| Small holdings | 15 087 | 0,20% | 13 270 | 0,17% | -12,04% |
| Townships | 14 360 | 0,19% | 25 902 | 0,34% | 80,38% |
| Informal areas | 495 | 0,01% | 2 861 | 0,04% | 477,73% |
| Rural villages | 96 983 | 1,27% | 117 598 | 1,54% | 21,26% |
| Sport and recreation | 3 635 | 0,05% | 3 833 | 0,05% | 5,46% |
| Total | 178 734 | 2,34% | 214 211 | 2,80% | 19,85% |

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | Land cover category | Area (ha) |
| Mining | 46 434 | 0,61% | 77 635 | 1,01% | 67,19% |

7. North West

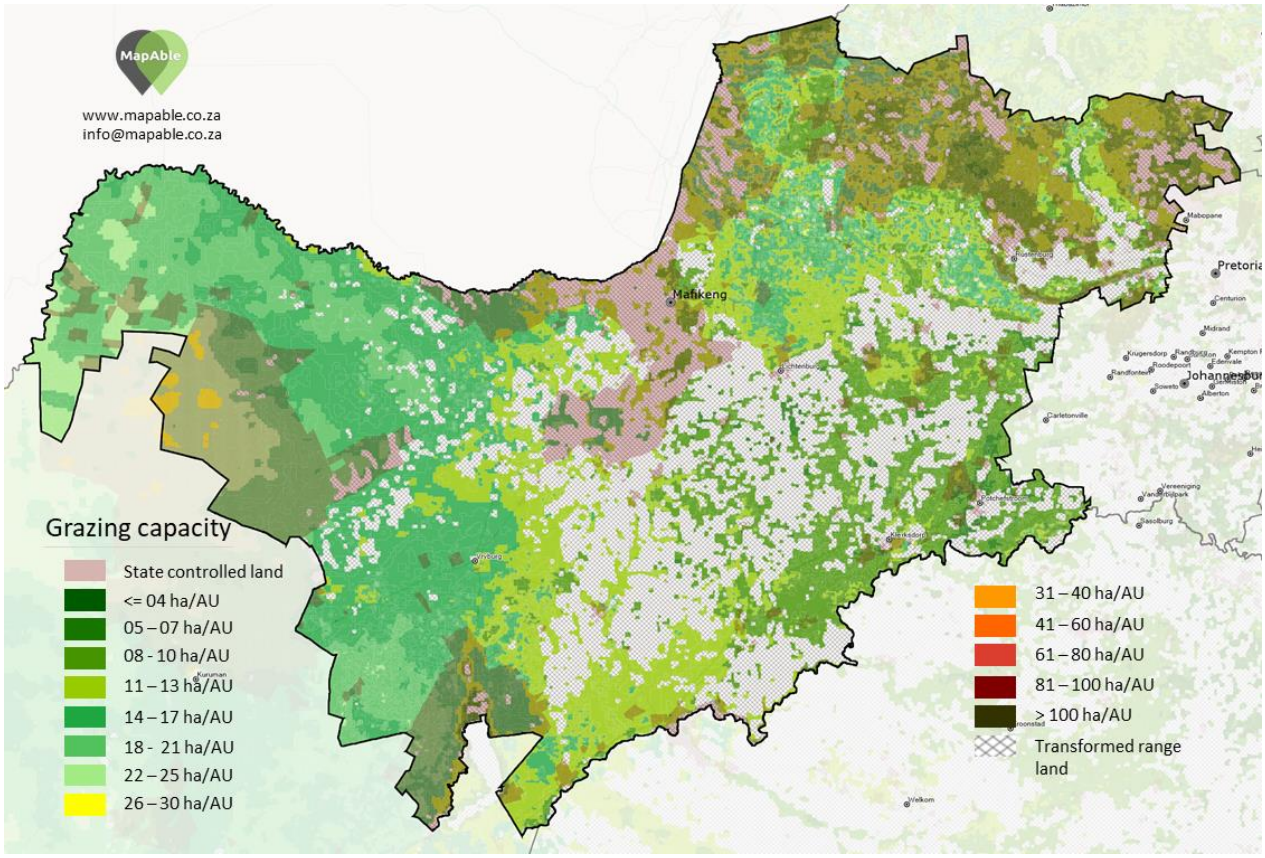



| Province | State land | The remainder of tribal land not included in column B | The remainder of ex-homelands not included in columns B and C | The remainder of protected areas not included in columns B, C and D | Total land under state control | The total area of the Province | State land as % of the total land area |
|---|---|---|---|---|---|---|---|
| A | B | C | D | E | F | G | H |
| Eastern Cape | 931 660 | 3 753 072 | 833 792 | 348 392 | 5 866 916 | 16 930 984 | 34,65% |
| Free State | 729 484 | 29 394 | 69 468 | 22 386 | 850 733 | 13 001 148 | 6,54% |
| Gauteng | 270 383 | 3 415 | 30 484 | 57 634 | 361 916 | 1 818 249 | 19,90% |
| KwaZulu-Natal | 1 957 858 | 1 891 568 | 505 390 | 586 090 | 4 940 907 | 9 445 102 | 52,31% |
| Limpopo | 2 429 635 | 1 303 988 | 496 218 | 1 136 637 | 5 366 478 | 12 580 603 | 42,66% |
| Mpumalanga | 1 613 060 | 266 666 | 75 830 | 48 675 | 2 504 231 | 7 654 431 | 32,72% |
| Northern Cape | 2 674 459 | 250 131 | 5 176 | 1 305 958 | 4 235 724 | 37 827 661 | 11,20% |
| North West | 1 906 380 | 985 937 | 395 204 | 79 428 | 3 366 949 | 10 523 812 | 31,99% |
| Western Cape | 843 066 | 0 | 0 | 1 207 426 | 2 050 492 | 13 152 154 | 15,59% |
| Total (ha) | 13 355 984 | 8 484 170 | 2 411 563 | 5 292 628 | 29 544 346 | 122 934 144 | 24,03% |
| Total | 10,86% | 6,90% | 1,96% | 4,31% | 24,03% | 100,00% | 24,03% |




Land cover summary: Cultivated land

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Cultivated commercial fields | 2 161 979 | 20,54% | 1 865 519 | 17,73% | -13,71% |
| Cultivated commercial pivot | 24 035 | 0,23% | 85 214 | 0,81% | 254,54% |
| Cultivated orchard and vines | 5 275 | 0,05% | 5 328 | 0,05% | 1,00% |
| Sugar cane | | 0,00% | | 0,00% | 0,00% |
| Subsistence farming | 268 804 | 2,55% | 233 358 | 2,22% | -13,19% |
| Total | 2 460 093 | 23,38% | 2 189 419 | 20,80% | -11,00% |

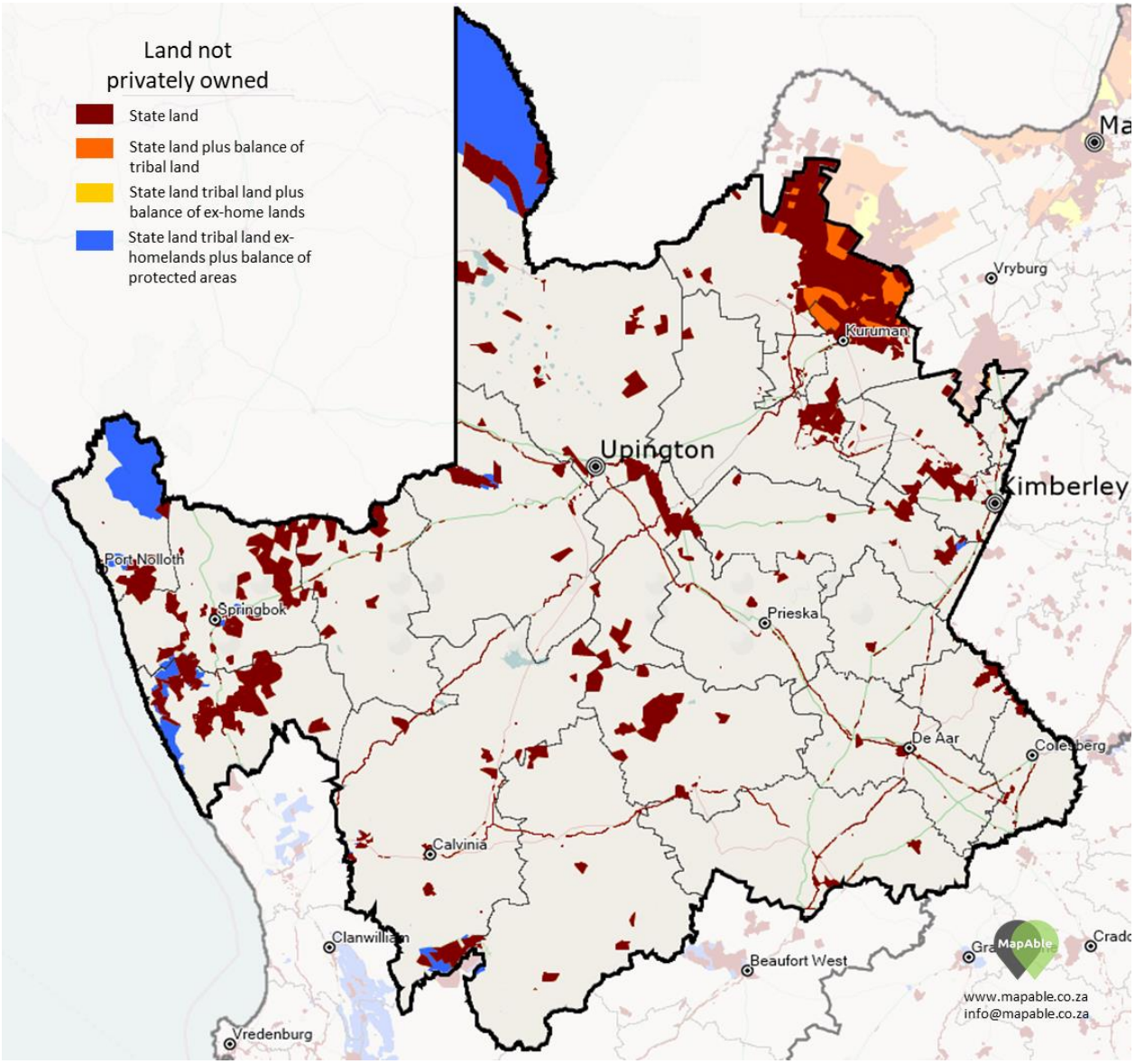



Land cover summary: Other

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Urban built-up | 1 529 | 0,01% | 3 084 | 0,03% | 101,73% |
| Commercial | 4 131 | 0,04% | 4 048 | 0,04% | -2,00% |
| Industrial | 3 693 | 0,04% | 3 464 | 0,03% | -6,20% |
| Residential | 14 632 | 0,14% | 14 539 | 0,14% | -0,64% |
| Small holdings | 16 744 | 0,16% | 11 260 | 0,11% | -32,75% |
| Townships | 6 015 | 0,06% | 14 437 | 0,14% | 140,02% |
| Informal areas | 6 355 | 0,06% | 10 234 | 0,10% | 61,04% |
| Rural villages | 129 170 | 1,23% | 147 133 | 1,40% | 13,91% |
| Sport and recreation | 3 893 | 0,04% | 4 561 | 0,04% | 17,16% |
| Total | 186 162 | 1,77% | 212 761 | 2,02% | 14,29% |

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | Land cover category | Area (ha) |
| Mining | 44 311 | 0,42% | 58 329 | 0,55% | 31,63% |

8. Northern Cape

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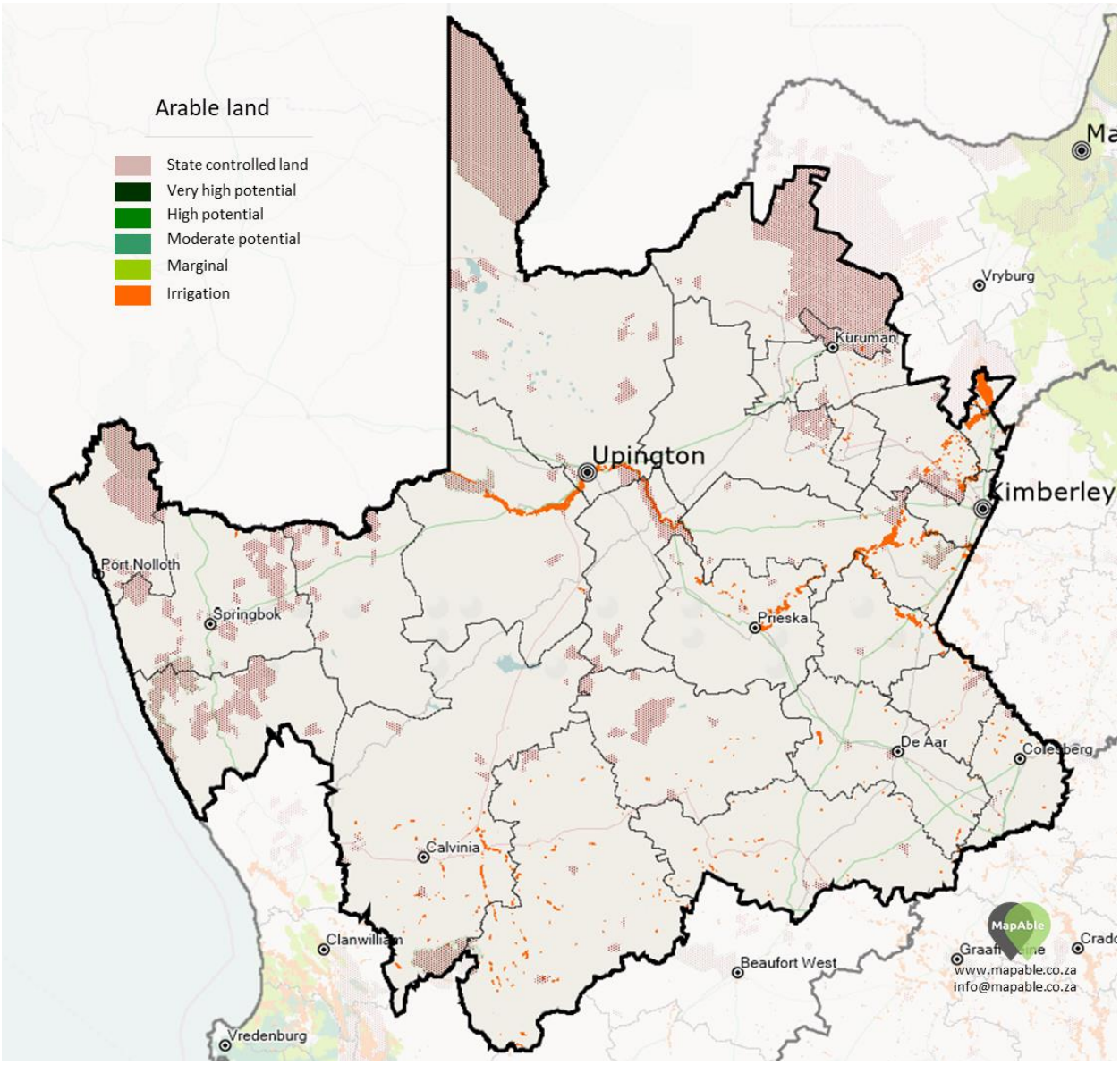
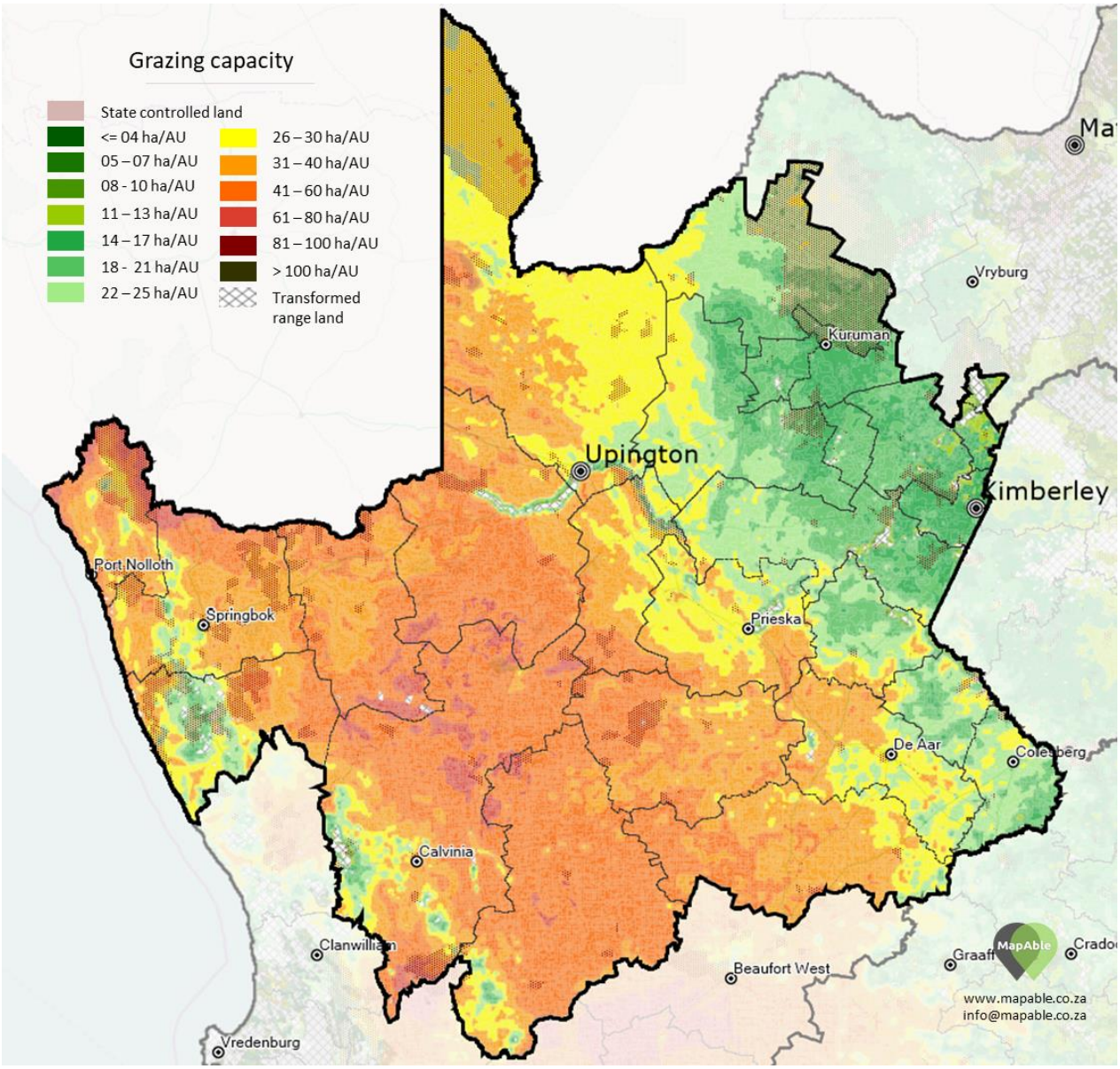
| A | B | C | D | E | F | G | H |
| Eastern Cape | 931 660 | 3 753 072 | 833 792 | 348 392 | 5 866 916 | 16 930 984 | 34,65% |
| Free State | 729 484 | 29 394 | 69 468 | 22 386 | 850 733 | 13 001 148 | 6,54% |
| Gauteng | 270 383 | 3 415 | 30 484 | 57 634 | 361 916 | 1 818 249 | 19,90% |
| KwaZulu-Natal | 1 957 858 | 1 891 568 | 505 390 | 586 090 | 4 940 907 | 9 445 102 | 52,31% |
| Limpopo | 2 429 635 | 1 303 988 | 496 218 | 1 136 637 | 5 366 478 | 12 580 603 | 42,66% |
| Mpumalanga | 1 613 060 | 266 666 | 75 830 | 48 675 | 2 504 231 | 7 654 431 | 32,72% |
| Northern Cape | 2 674 459 | 250 131 | 5 176 | 1 305 958 | 4 235 724 | 37 827 661 | 11,20% |
| North West | 1 906 380 | 985 937 | 395 204 | 79 428 | 3 366 949 | 10 523 812 | 31,99% |
| Western Cape | 843 066 | 0 | 0 | 1 207 426 | 2 050 492 | 13 152 154 | 15,59% |
| Total (ha) | 13 355 984 | 8 484 170 | 2 411 563 | 5 292 628 | 29 544 346 | 122 934 144 | 24,03% |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Total | 10,86% | 6,90% | 1,96% | 4,31% | 24,03% | 100,00% | 24,03% |




Land cover summary: Cultivated land

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Cultivated commercial fields | 170 110 | 0,45% | 138 141 | 0,37% | -18,79% |
| Cultivated commercial pivot | 44 085 | 0,12% | 93 459 | 0,25% | 112,00% |
| Cultivated orchard and vines | 35 343 | 0,09% | 40 073 | 0,11% | 13,38% |
| Sugar cane | | 0,00% | | 0,00% | 0,00% |
| Subsistence farming | 4 394 | 0,01% | 3 951 | 0,01% | -10,08% |
| Total | 253 932 | 0,67% | 275 625 | 0,73% | 8,54% |

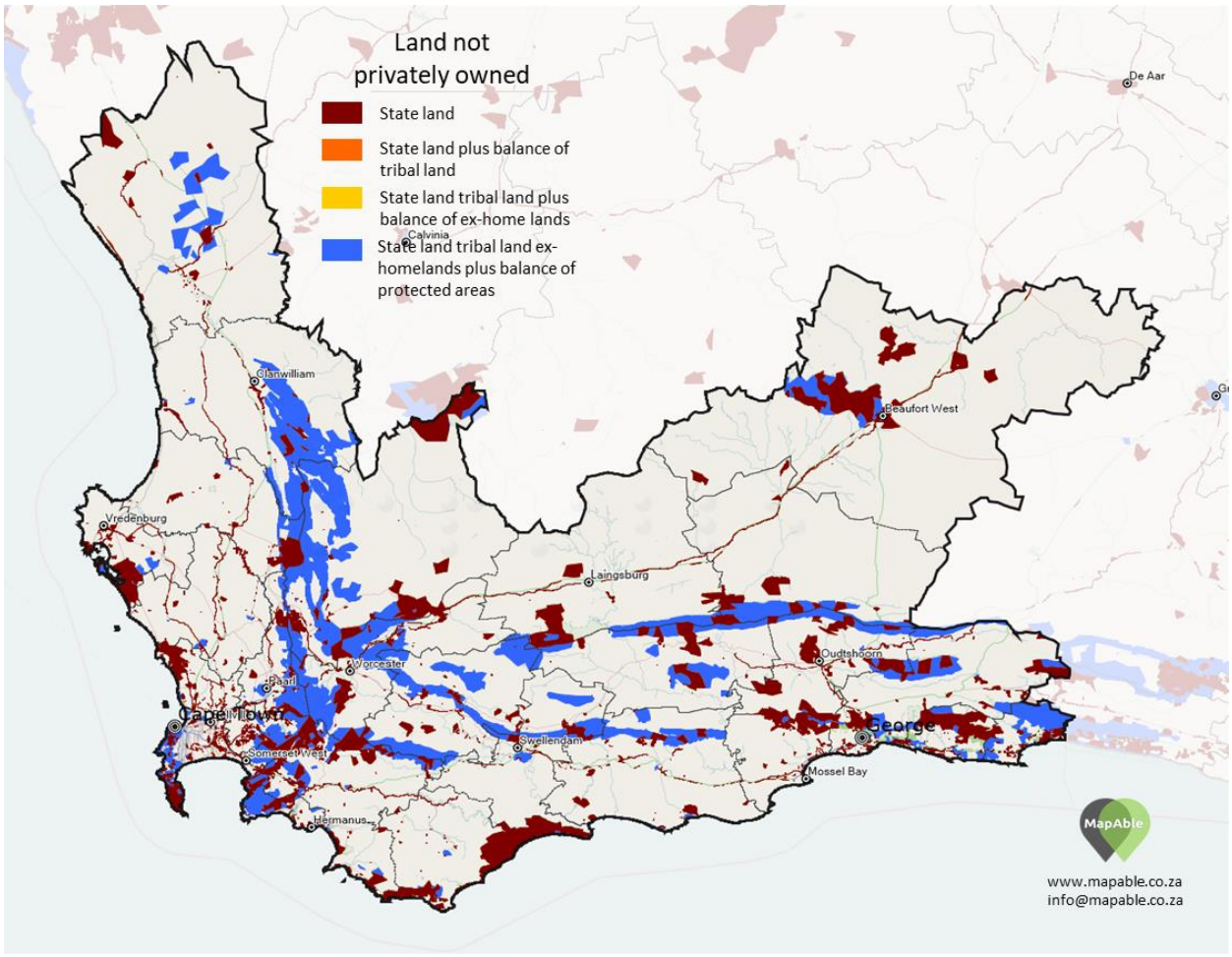



Land cover summary: Other

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Urban built-up | 2 192 | 0,01% | 3 645 | 0,01% | 66,25% |
| Commercial | 1 901 | 0,01% | 2 142 | 0,01% | 12,66% |
| Industrial | 1 608 | 0,00% | 1 850 | 0,00% | 15,00% |
| Residential | 7 965 | 0,02% | 7 479 | 0,02% | -6,10% |
| Small holdings | 2 527 | 0,01% | 2 526 | 0,01% | -0,02% |
| Townships | 7 492 | 0,02% | 10 064 | 0,03% | 34,33% |
| Informal areas | 210 | 0,00% | 2 099 | 0,01% | 898,32% |
| Rural villages | 17 892 | 0,05% | 20 407 | 0,05% | 14,05% |
| Sport and recreation | 3 901 | 0,01% | 3 712 | 0,01% | -4,85% |
| Total | 45 689 | 0,12% | 53 922 | 0,14% | 18,02% |

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | Land cover category | Area (ha) |
| Mining | 104 227 | 0,28% | 102 215 | 0,27% | -1,93% |

9. Western Cape

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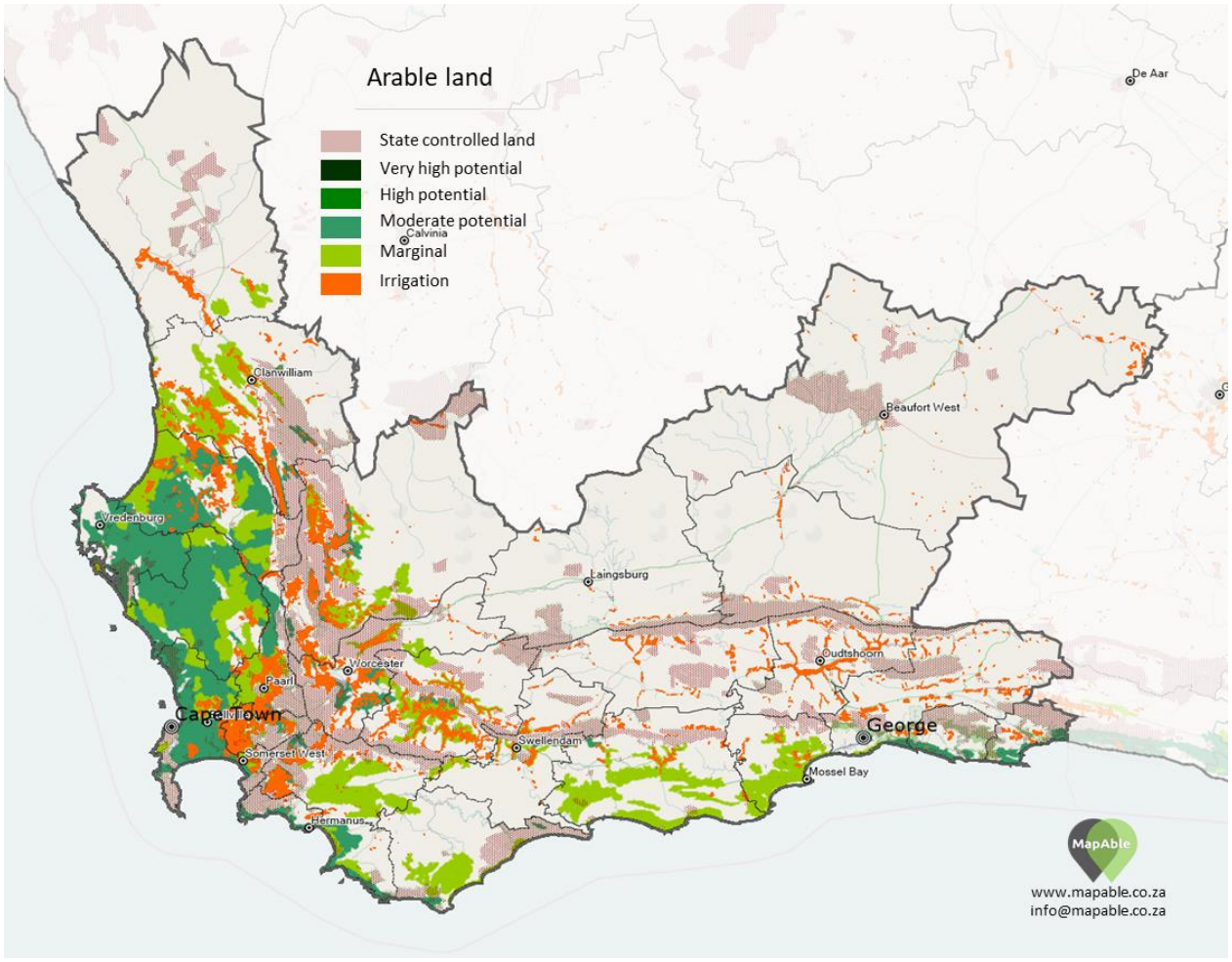
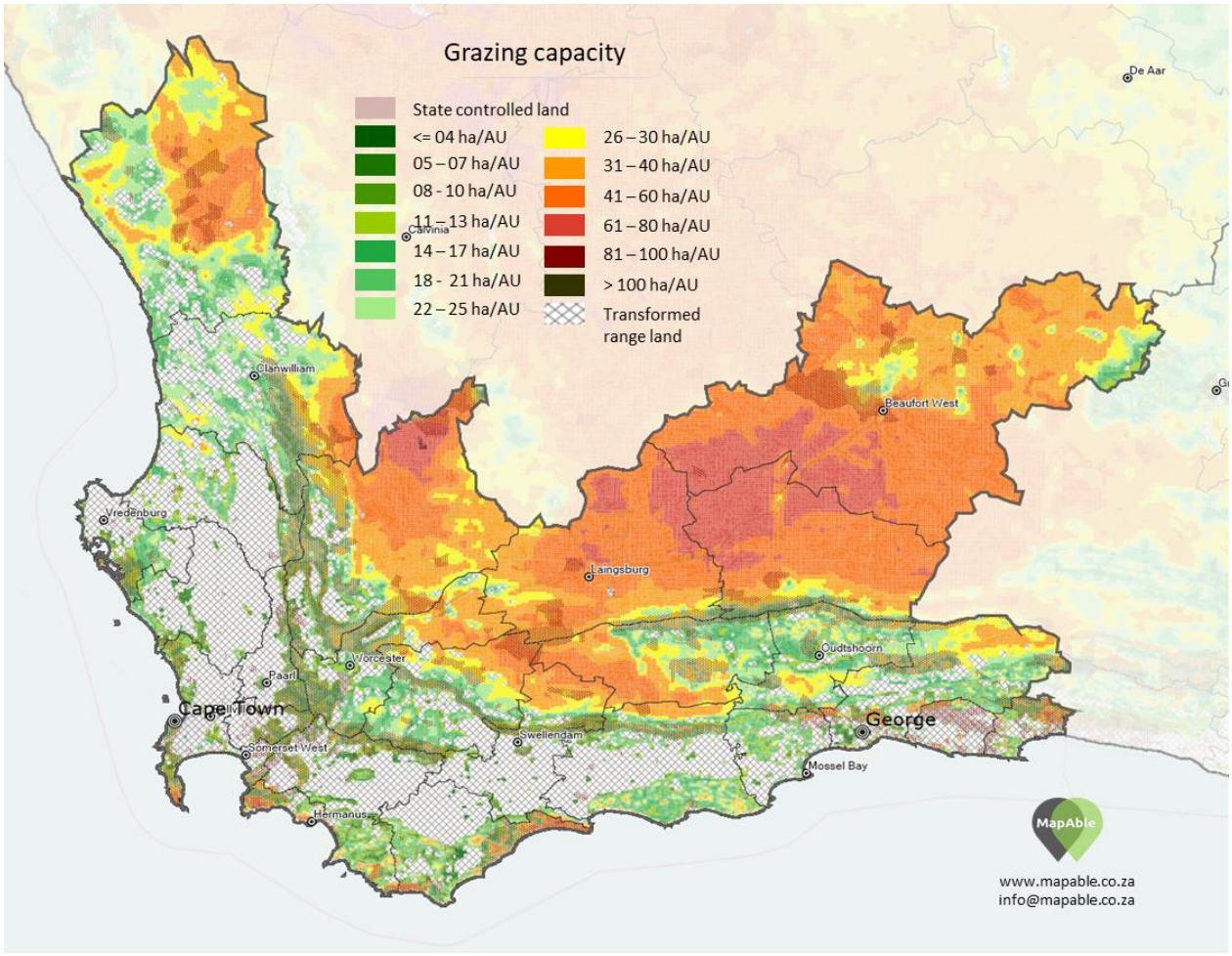
| Eastern Cape | 931 660 | 3 753 072 | 833 792 | 348 392 | 5 866 916 | 16 930 984 | 34,65% |
| Free State | 729 484 | 29 394 | 69 468 | 22 386 | 850 733 | 13 001 148 | 6,54% |
| Gauteng | 270 383 | 3 415 | 30 484 | 57 634 | 361 916 | 1 818 249 | 19,90% |
| KwaZulu-Natal | 1 957 858 | 1 891 568 | 505 390 | 586 090 | 4 940 907 | 9 445 102 | 52,31% |
| Limpopo | 2 429 635 | 1 303 988 | 496 218 | 1 136 637 | 5 366 478 | 12 580 603 | 42,66% |
| Mpumalanga | 1 613 060 | 266 666 | 75 830 | 48 675 | 2 504 231 | 7 654 431 | 32,72% |
| Northern Cape | 2 674 459 | 250 131 | 5 176 | 1 305 958 | 4 235 724 | 37 827 661 | 11,20% |
| North West | 1 906 380 | 985 937 | 395 204 | 79 428 | 3 366 949 | 10 523 812 | 31,99% |
| Western Cape | 843 066 | 0 | 0 | 1 207 426 | 2 050 492 | 13 152 154 | 15,59% |
| Total (ha) | 13 355 984 | 8 484 170 | 2 411 563 | 5 292 628 | 29 544 346 | 122 934 144 | 24,03% |
| Total | 10,86% | 6,90% | 1,96% | 4,31% | 24,03% | 100,00% | 24,03% |




Land cover summary: Cultivated land

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Cultivated commercial fields | 1 703 219 | 12,95% | 1 647 013 | 12,52% | -3,30% |
| Cultivated commercial pivot | 18 975 | 0,14% | 74 305 | 0,56% | 291,60% |
| Cultivated orchard and vines | 241 460 | 1,84% | 262 850 | 2,00% | 8,86% |
| Sugar cane | | 0,00% | | 0,00% | 0,00% |
| Subsistence farming | 1 035 | 0,01% | 726 | 0,01% | -29,85% |
| Total | 1 964 689 | 14,94% | 1 984 895 | 15,09% | 1,03% |




Land cover summary: Other

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| Land cover category | Area (ha) | % of province | Area (ha) | % of province | % change |
| Urban built-up | 1 194 | 0,01% | 3 975 | 0,03% | 232,88% |
| Commercial | 7 010 | 0,05% | 9 066 | 0,07% | 29,32% |
| Industrial | 8 486 | 0,06% | 8 228 | 0,06% | -3,04% |
| Residential | 46 558 | 0,35% | 49 778 | 0,38% | 6,92% |
| Small holdings | 10 369 | 0,08% | 10 233 | 0,08% | -1,31% |
| Townships | 16 232 | 0,12% | 19 030 | 0,14% | 17,24% |
| Informal areas | 993 | 0,01% | 3 092 | 0,02% | 211,37% |
| Rural villages | | 0,00% | | 0,00% | 0,00% |
| Sport and recreation | 12 661 | 0,10% | 13 247 | 0,10% | 4,63% |
| Total | 103 504 | 0,79% | 116 649 | 0,89% | 12,70% |

| | 1990 | | 2014 | | |
|---|---|---|---|---|---|
| | Area (ha) | % of province | Area (ha) | Area (ha) | % of province |
| Mining | 3 229 | 0,02% | 9 509 | 0,07% | 194,50% |

AfriForum

# MEMORANDUM

## EXPROPRIATION WITHOUT COMPENSATION

### A DISASTER IN WAITING

# 1. Expropriation without compensation

Once the ruling ANC had adopted a policy that land should be expropriated without compensation at its 54th National Conference in December 2017, Cyril Ramaphosa, its newly elected President, said that taking the land owned by white farmers should increase food production and that "South Africa could turn into the ultimate paradise if the implementation of the policy of expropriation of land without compensation leads to higher food production". He added: "We can make this country the Garden of Eden."[39] On 27 February 2018, the South African Parliament adopted a motion that a process had to be started to amend Section 25 (the property rights clause) in the South African Constitution to allow for expropriation of land without compensation.[40]

"(A)lmost 400 years ago, a criminal by the name of Jan van Riebeeck landed in our native land and declared an already occupied land by the native population as a no-man's land," argued Julius Malema, Leader of the EFF, as he introduced the motion in Parliament, which was supported by the ruling ANC. "Van Riebeeck, a first descendent of the Dutch to arrive in the Cape would later lead a full blown colonial genocide, anti-black land dispossession criminal project, arguing that simply because our people could not produce title deeds, this land, that they have been living in for more than a thousand years, was not their own."[41] He continued: "The time for reconciliation is over; now is the time for justice."[42]

David Mabuza, Deputy President, threatened white farmers with a "violent takeover" should they not volunteer some of their land.[43]

Other than the clear racist motivation that serves as a foundation to this motion, here are at least three major problems with the South African government's stance on land reform. The first is that it is based on a distorted perception of history. The second is that there is no real "hunger for land" – in fact, the vast majority of black people in South Africa have no interest in owning agricultural land. The third is that where the government has intervened with regard to landownership, it has had catastrophic results. But before these issues are addressed, the dishonesty of the South African government regarding expropriation of property should be pointed out.

# 2. Dishonesty regarding expropriation

President Cyril Ramaphosa described his pilgrimage to the World Economic Forum (WEF) in January 2018 as "very very successful". The main aim of this trip was to encourage international investors to invest in South Africa.[44] Less than a month after the wooing of international investors under the assumption that property rights will be protected in South Africa, the South African Parliament decided that the South African Constitution would have to be amended to allow for the expropriation of property without compensation.

It is argued that this policy must be executed so that more black people can own property. It is however evident from the policy documents of both the ruling ANC and its supporting EFF, that the intention is for the state to own the land, not private individuals. This point is further proven by the fact that only 6,3% of land that had been bought by the state, has been transferred to private ownership.[45]

Furthermore, the motion to expropriate property without compensation is based on a flawed state-driven land audit that is soaked with fabrications and methodological errors.

# 3. Flawed perception of history

[39] News24. (7 January 2018). Taking land should increase food production – Ramaphosa.

[40] News24. (27 February 2018). National Assembly adopts motion on land expropriation without compensation.

[41] Hansard (Unrevised). National Assembly. (27 February 2017). pp. 25–26.

[42] Hansard (Unrevised). National Assembly. (27 February 2017). p. 28.

[43] IOL. (7 April 2018). Mabuza appeals to white farmers to share their land.

44 Fin24. (28 January 2018). Ramaphosa wows Davos money.

45 Interview with Johann Bornman. (19 April 2018).

It is often argued that land reform had to be executed in order to correct historical injustices. While it is certainly true that a variety of injustices occurred throughout South Africa's history, it should be pointed out that the history of land ownership in South Africa is more complex than that which is regularly argued by political leaders. The truth is that white owned land was acquired in three different ways, namely occupation of empty land, acquiring of land through negotiation and conquest. The focus of this report is not to provide a historic account of events. Two comments should however be made regarding the obtaining of land through conquest. The first is that it was a common practice among black tribes at the time.[46] The second is that obtaining of land through conquest was not that common among white people who settled in South Africa. The majority of land was either acquired through the occupation of empty land, or through negotiations with local black tribes.[47]

# 4. No "hunger for land"

The Restitution of Land Rights Act[48] allowed for people to institute claims for land of which they had been deprived of as a result of racially discriminatory practices such as forced removals. By the time the cut-off date was reached in 1998, about 80 000 land claims had been filed. The government was not satisfied and opened the process again in 2014, claiming that they believed that 400 000 land claims would be filed in total.[49] A little known fact is that 57,8% of land claims were for urban land, as opposed to rural land.[50] Furthermore, what came as a source of frustration to the government was the fact that 93% of those who had instituted land claims indicated that they did not really have an interest in owning agricultural land and that they would prefer to receive money as compensation. The government responded angrily to this, stating that it was "hurting land reform". Bheki Mbili, in charge of Land Restitution Support in KwaZulu-Natal, explained what black land claimants say:

> Many of the claimants already have small pieces of land and some don't even live in those areas where their forefathers were removed from. Some say to us that they don't want more land than they already own and the risk involved if they ask us to buy them those huge pieces of land that will go out of production.

He then explained why this was a problem for the government:

> The problem with this is that if you look at the outcome of first phase of the land audit, the amount of land that is private land particularly that is owned by white people in this country is still in the region of between 70 and 80%. We can only change the land ownership pattern if people opt for restoration. If they opt for financial compensation the pattern stays the same. If you take the money you don't dent the problem that currently exists.[51]

Notwithstanding the fact that the figures of white landownership provided by Mbili are inflated (at least 34,5% of South African land is black-owned),[52] the problem is therefore that the South African government is dedicated to reducing the amount of land owned by white people, while this is not regarded as a priority by the majority of black South Africans.

This is also evident from the rapid pace at which urbanisation among black South Africans is taking place. Black South Africans, more than any other group, seem to want to live in cities, rather than in rural areas. From 2000 to 2015, the population of so-called black Africans in Johannesburg increased by 76,7%. The corresponding number for Cape Town is 122,4% and for Pretoria it is 71,6%. During the same time frame, the number of white people in Johannesburg declined by 8,1% and in Cape Town by 0,7%. In Pretoria, the number of white people increased by a mere 2,7%.[53]

With regard to the intention to enter agriculture, Statistics South Africa (SSA) found that only 2,8% of all university students enrolled to study agricultural science and similar courses.[54]

46 Changuoin, L. and Steenkamp, B. (2011). Omstrede Land. Pretoria: Protea Boekhuis. p. 30.
47 Changuoin, L. and Steenkamp, B. (2011). Omstrede Land. Pretoria: Protea Boekhuis.
48 No. 22 of 1994.
49 The Citizen. (10 July 2014). 400 000 Valid land claims remain.
50 Agri Development Solutions database. Interview with Johann Bornman. (19 April 2018).
51 TimesLive. (30 May 2017). Land claimants want the cash not the land, says KZN Land Claims Commission.
52 Landbou.com. (4 March 2017). Landbougrond in SA: 34,5% in swart besit.
53 Institute of Race Relations. (2017). South Africa Survey 2017. pp. 28–29.
54 News24. (26 February 2017). Land reform is a political ploy.

Furthermore, when the Institute of Race Relations (IRR) surveyed South Africans and asked them what they believed had to be done to improve their lives, a mere 1% indicated that they believed that land reform would improve their lives.[55]

## 5. Failure of land reform

According to the South African government, about 9% – almost 8 million hectares – of agricultural land has already been distributed to black African people.[56] However, it was admitted that more than 90% of farms distributed by the state to black African communities failed and usually reverted very quickly either to subsistence farming or to squatter camps.[57] A study by the Land Bank found that approximately 4 000 farms had been acquired since 1994 at a cost of R10 billion, of which only 10% were productive.[58] While the South African government had already spent more than R45 billion on land reform, only 6,3% of the land that had been acquired by the state had been transferred into private land.[59]

## 6. Conclusion

Land reform is a political ploy, a policy that is rigged for failure and one that only serves to escalate the friction that already exists with regard to South Africa's food producers.

It is clear that the South African government's push for expropriation without compensation is founded in racist sentiment and a distortion of history. It is also clear that the so-called hunger for land is largely non-existent – particularly with regard to agricultural land. Furthermore, it is clear that land reform has already been disastrous to the extent that it has been executed in South Africa.

While the primary targets of this policy are clearly white farmers, the primary victims might just as well be the very people that the South African government claims to represent.

55 Report by the IRR. (February 2017). Race Relations in South Africa: Reasons for Hope 2017. p. 3.
56 TimesLive. (10 March 2018). Land debate is clouded by misrepresentation and lack of data.
57 Mail & Guardian. (2 March 2010). Land reform: Use it or lose it, says minister. See also Johnson, R. W. (2015). How Long Will South Africa Survive?
58 Source
59 Interview with Johann Bornman. (19 April 2018).