Western Cape Government

WESTERN CAPE PROVINCIAL AGRICULTURAL DISASTER RISK ASSESSMENT (PADRA) REPORT 2023

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ABBREVIATIONS

4th IR	Fourth Industrial Revolution
APSD	Agricultural Producer Support and Development
CK	Central Karoo
CW	Cape Winelands
DALRRD	Department of Agriculture, Land Reform and Rural Development
DRR	Disaster Risk Reduction
GR	Garden Route
GPS	Global Positioning System
IB	Irrigation Board
LSU	Large Stock Unit
MDMC	Municipal Disaster Management Centre
NDMC	National Disaster Management Centre
NDVI	Normalized Difference Vegetation Index
PADRA	Provincial Agricultural Disaster Risk Assessment
PASG	Percentage of Annual Seasonal Greenness
PDMC	Provincial Disaster Management Centre
RD	Rural Development
RTDS	Research and Technology Development Services
SRUM	Sustainable Resource Use and Management
VCI	Vegetation Condition Index
WCDOA	Western Cape Department of Agriculture

WC	West Coast
WCP	Western Cape Province
WUA	Water Users Association

1. SUMMARY

In order to adequately prepare and respond to the needs of farmers facing disasters, the Western Cape Department of Agriculture established its Disaster Risk Reduction (DRR) sub-programme. The DRR sub-programme would focus on ensuring that farmers receive adequate support to prevent, mitigate and reduce the impact of disasters. Previously the department's primary focus was on providing post-disaster recovery, which proved costly and unsustainable. In addition to the drought, farmers have had to deal with floods, fires, hail, avian influenza, African swine fever, locusts and the ongoing electricity crisis. Climate change has resulted in an increase in both the frequency and intensity of disasters. In his 2022 Medium Term Budget Policy Statement, Minister Enoch Godongwana highlighted the impact of natural disasters on the economic recovery of South Africa. Quote, "Our structural challenges have been exacerbated by new ones, including the global economic slowdown, high energy and food prices; and the destruction caused by *natural disasters* such as the recent floods." Unquote.

To better build resilience within the farming sector, the DRR officials needed to understand not only the impact of the drought on the veld condition, but more importantly the impact of the drought, the devastating 2023 floods and other disasters on farmers, their families and their agri-workers.

Initially, the department conducted a 'drought tour', which allowed the department to assess and categorize the veld conditions across the Western Cape Province (WCP). This veld assessment forms a crucial part of the long-term dataset and it is a good indicator of a slow-onset drought. Based on the outcomes of the veld assessment, the department was able to determine which farmers should receive drought support. Should the veld conditions recover or deteriorate over time, the department could reclassify the area and accordingly adjust the required drought support.

Whilst the veld assessments provided a good indication of the veld condition, it failed to take into account the impact of the drought and other disasters on farmers. What was needed, was a farmer-centred approach. By engaging with farmers and other key

stakeholders, the department would be in a better position to fully understand what interventions were needed to mitigate future disasters.

Our stakeholder engagements allowed farmers to engage openly with DRR officials and together, we were able to identify key enablers and area-specific interventions.

The combination of the veld assessments and the stakeholder engagements resulted in the establishment of the Provincial Agricultural Disaster Risk Assessments (PADRA).

2. PURPOSE

To demonstrate the disaster interventions and the categorisation of drought areas based on the 2023 Veld Assessments (March & September 2023) and the stakeholder engagements.

3. MOTIVATION

During 2023, the department conducted its veld assessments in both the winter and summer rainfall regions of the Western Cape (5 districts) and its stakeholder engagements in three of the five districts. Unfortunately, due to the June and September 2023 floods, we had to postpone our Garden Route and Cape Winelands risk assessments. The outcomes of these veld assessments and stakeholder engagements meaningfully contributed to the decision-making process, specifically in relation to the provision of disaster support. As mentioned previously, the June and September 2023 floods significantly affected the agricultural sector in the Cape Winelands, Overberg and West Coast Districts. Total agricultural damages suffered by farmers exceeded R3 billion.

Whereas the veld assessments focuses exclusively on the condition of the veld, the stakeholder engagements provides the WCDoA's disaster risk reduction sub-programme, the PDMC, Organised Agriculture and Municipal Disaster Management Centre staff the opportunity to understand the impact of disasters on farmers, their families, agri-workers and the farming community. More importantly, as a collective, we were able to discuss, formulate and implement area specific disaster risk-reduction measures.

The department recognises that the ongoing drought in certain parts of the Western Cape and the recent floods, has had a devastating impact on not only the veld conditions across the province, but also on the farming community at large. It is thus vital that we implement projects and programmes that recognises the significant impact of climate change on both the frequency and intensity of disasters. Climate change has

altered the agricultural landscape and to ensure that the Department's Disaster Risk Reduction (DRR) Sub-programme is better prepared to respond to the effects of climate change, the Department's climate change specialist, Professor Stephanie Midgley, forms an integral part of the Provincial Agricultural Disaster Risk Assessments (PADRA).
These disaster risk assessments play a crucial role in assisting the department to direct its limited resources to beneficiaries who are most in need. Whilst the veld assessments could be utilised as a decision making tool, it was too narrowly focused on the drought and its impact on the veld. The DRR's farmer-centred approach resulted in the evolution from veld assessment to disaster risk assessment, incorporating the veld assessments, M&E visits, lessons learnt from post-disaster support initiatives and stakeholder engagements.

4. INTRODUCTION

Over the last couple of years, the Western Cape Department of Agriculture has experienced an increase in both the frequency and intensity of natural disasters. The prolonged drought, which is in its tenth year, has had a devastating impact on not only the agricultural sector, but on the broader economy as well. The June and September 2023 flash floods experienced by farmers in the Overberg, West Coast and Cape Winelands districts have only exacerbated the current struggles of the Western Cape farmers. The 2017/2018 Garden Route veld fires have not only caused major agricultural infrastructure damage, but also sadly claimed the lives of 16 people. Disasters not only impact the economic viability of farming in general, but also threatens the very lives of families.

The department recognises the role that climate change is playing within the agricultural landscape and as such, its dedicated Disaster Risk Reduction (DRR) Sub-programme is working with all stakeholders to implement risk-reduction and mitigation strategies within the agricultural sector.

The Provincial Agricultural Disaster Risk Assessments, a combination of the department's veld assessments and stakeholder engagements, is proving to be a valuable tool in ensuring that the Department's Disaster Risk Reduction Sub-programme is responsive to the needs of its farmers. Additionally, the successful implementation of these risk

assessments, has significantly contributed to relationship building between the department and all its stakeholders.

5. PROVINCIAL RISK ASSESSMENTS

5.1 Section A: Stakeholder Engagements

5.1.1 Introduction

The success of an organisation must be measured by the ability of the organisation to respond adequately and timeously to the needs of its key stakeholders. Within a disaster management context, any delays in responding to the needs of one's stakeholders could have dire consequences.

Whilst the veld assessment is an effective tool to identify the veld conditions, it fails to take into account the impact of the drought and other disasters on farmers, their families and their staff (agri-workers). What was needed was a farmer-centred approach. Critical to a farmer-centred approach, is recognising that every intervention must be geared towards supporting farmers and building their resilience within the agricultural community

The stakeholder engagements allows the department to hear first-hand the impact of the drought on the livelihoods of the beneficiaries, ascertain the impact of the current support initiatives on the farming community and how the Department, specifically the Disaster Risk Reduction (DRR) Sub-programme, could better support the farming community with respect to disasters.

5.1.2 Climate Change

The importance and impact of Climate Change within the agricultural sector cannot be overstated. Hence, the department's climate change specialist, professor Stephanie Midgley, forms an integral part of the stakeholder engagements. There has been an increase in both the frequency and intensity of disasters affecting the agricultural sectors. Engaging farmers on climate change issues resulted in very open and frank discussions between the various role-players.

Farmers re-iterated their commitment to farming sustainably within a climate change environment. Professor Midgley indicated that the interaction with the farmers and listening to their experiences has been fruitful in that she has a very good understanding of the climate change knowledge and perceptions existing within the agricultural space. The DRR programme and the Climate Change Unit will continue to work together to ensure that we position ourselves to adequately support our farmers, specifically within a climate change and disaster management environment. Professor Midgley c

5.1.3 Engagements

During the months of March 2023 to December 2023, the DRR programme undertook stakeholder engagements in three of the five Western Cape districts. Whilst this process is both taxing and exhaustive, the insights gained from personally interacting with farmers, their families and workers, proved invaluable.

Listening to personal accounts of how the drought, floods and other disasters has affected farmers, only serves to motivate us as civil servants to want to do more. Whilst the recent floods (June & September 2023) has caused severe economic loss within the agricultural community, it has also provided an opportunity for the Western Cape Department of Agriculture, through its Disaster Risk Reduction (DRR) sub-programme, to advance some of the core values of the Western Cape Government. These values include caring, responsiveness, innovation and competence. Based on the feedback from our farmers, we believe that the Western Cape Department of Agriculture is living up to these values.

During these stakeholder engagements, the DRR and PDMC officials reiterated the Department's and both the NDMC and PDMC's renewed focus on risk reduction and mitigation strategies. The department is implementing a number of interventions, including but not limited to:

I. River protection works.
II. Alien clearing projects
III. Fencing infrastructure projects
IV. Weather Station installations
V. Borehole installations

To ensure that the department implements area-specific projects, the department's DRR officials utilised the Hazard, Vulnerability and Capacity (HVC) methodology. This methodology ensures that stakeholders themselves identify the hazards affecting them, their own vulnerabilities and their capacity to effectively deal with the identified hazards. The outcome of this exercise ensured that the department implemented projects developed by the farmers themselves.

Sticker colour legend:

- Red: Fire
- Dark blue: Flooding
- Silver: Drought
- Yellow: Pests
- Light blue: Underground water
- Orange: Predation (jackal, caracal)
- Black: Other

5.1.4 West Coast District Stakeholder Engagement:

All previous West Coast District engagements focussed primarily on farmers located in drought-stricken areas. The veld in the Clanwilliam and surrounding areas however has recovered sufficiently and as such, farmers located in the Cederberg Municipality no longer received drought support.

Farmers in the Matzikama Municipality however continue to receive drought support. The DRR officials have had multiple engagements with the Bitterfontein and Ebenaeser farmers, due to the ongoing drought in this region. The farmers in the Ebenaeser engagement consisted solely of commonage farmers. The department recognises that whilst commonage farmers do face different challenges to that of their commercial counterparts, building resilience within the entire agricultural sector is vital if the sector wishes to remain economically viable in the face on ongoing disasters. As the department has had multiple engagements with the Bitterfontein and Ebenaeser farming communities, this round of risk assessments focussed on the Clanwilliam, Wupperthal, Landplaas and Rietpoort farming communities.

Farmers attending the risk assessments, agreed that it was imperative that they focus on risk reduction and mitigation strategies, which would contribute significantly to a more resilient and robust agricultural sector.

Climate Change has been identified as the catalyst for the increase in both frequency and intensity of natural disasters.

The Department's Climate Change specialist, presented the latest research on climate change, and its effects on the agricultural sector. All Participants engaged robustly on various climate change related issues and how it has affected farming practices over the last couple of years.

In the engagement with farmers and officials across the three (3) days, it became evident that farmers have embraced climate change, having personally experienced its effects on their farming practices.

5.1.4.1 Day 1: Clanwilliam & Wuppertal (7 March 2023)

Activity 1: Hazard Identification

Fig. 1. Clanwilliam/Wuppertal Gr1 hazard identification

Fig. 2. Clanwilliam/Wuppertal Gr2 hazard identification

Activity 1 Outcome: hazard mapping

Fig. 3. Clanwilliam/Wuppertal Gr1 hazard map

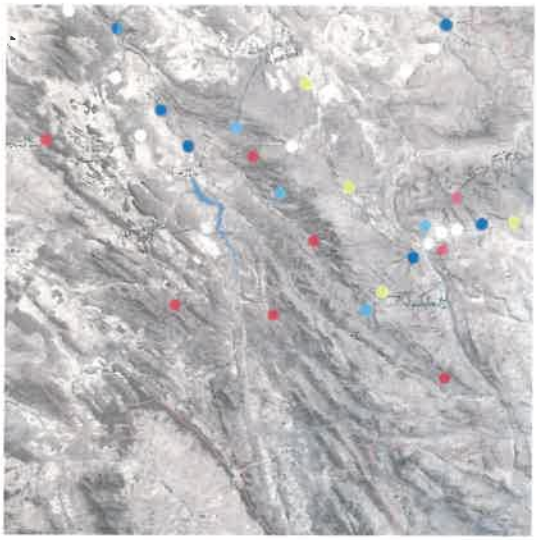


Fig. 4. Clanwilliam/Wuppertal Gr2 hazard map

The hazards affecting farmers in the Cederberg Municipality (Clanwilliam/Wuppertal):

- Red stickers: fire
- Dark blue: areas were identified which are susceptible to flooding
- Yellow: pests (insects: vegetable moths (groente motte)
- Light Blue: predation (jackal, leopard, caracal)

Activity 2: Project Identification

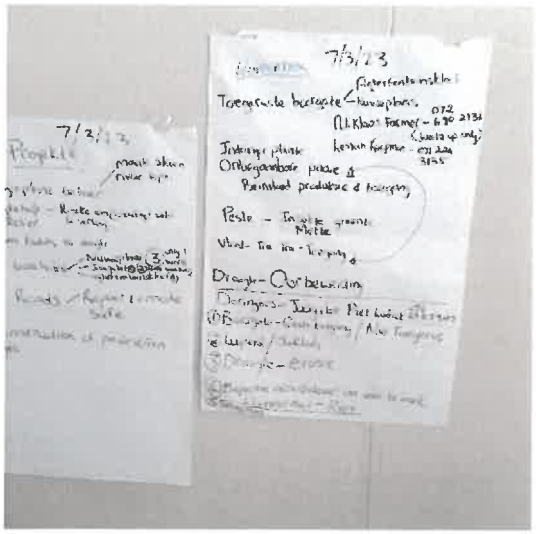


Fig. 5. Clanwilliam/Wuppertal Gr1 project identification

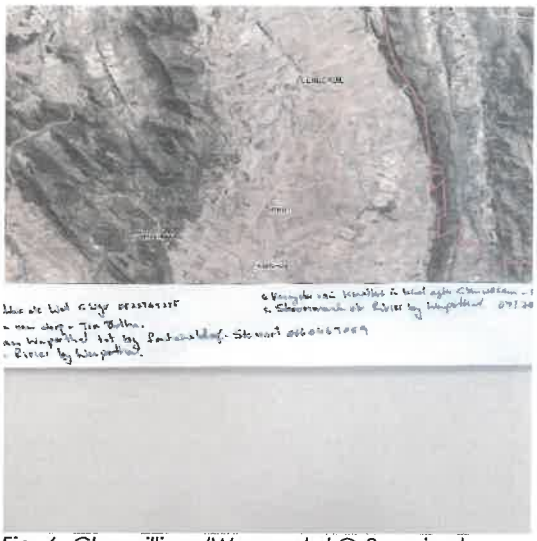


Fig. 6. Clanwilliam/Wuppertal Gr2 project identification

Identified projects

- Canal maintenance (Wuppertal)
- Alien clearing: Kraalbos (Clanwilliam)
- Dam maintenance (Wuppertal)
- Equipping of boreholes (Nuweplaas, Agterfonteinskloof)

5.1.4.2 Day 2: Landplaas (8 March 2023)

Activity 1: hazard identification

Fig. 7. Landplaas Gr1 hazard identification

Fig. 8. Landplaas Gr2 hazard identification

Activity 1 Outcome: hazard mapping

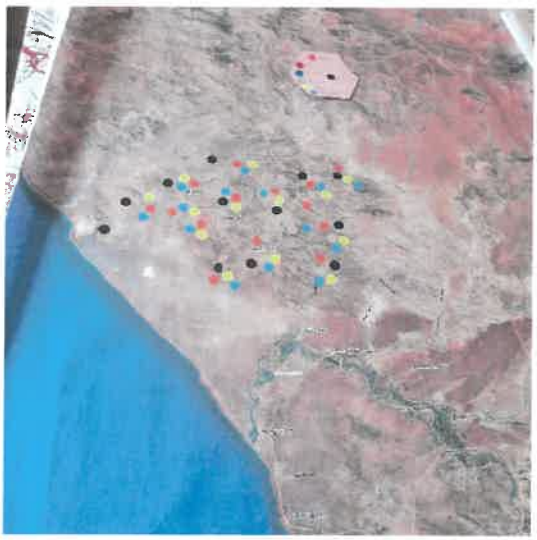


Fig. 10. Landplaas Gr1 hazard map

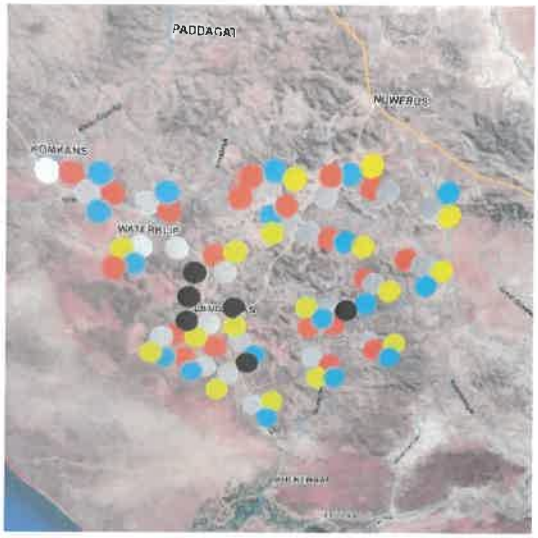


Fig. 9. Landplaas Gr2 hazard map

The hazards affecting the Landplaas farmers as identified by the participants:

- Silver: drought
- Yellow: pests
- Orange: predation (jackal)
- Light Blue: underground water: poor quality
- Black: wind

Activity 2: Project Identification

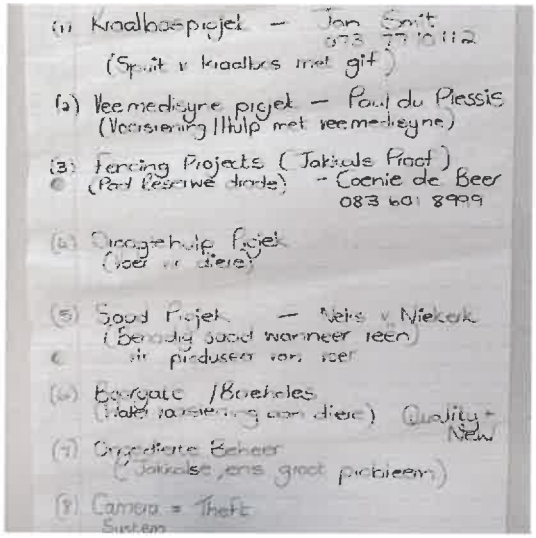


Fig. 12. Landplaas project identification

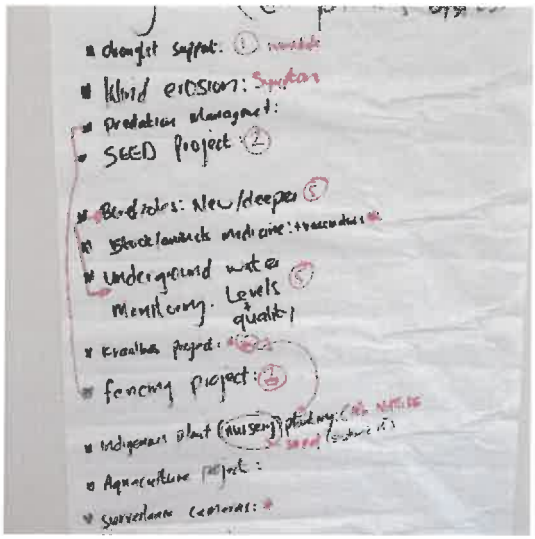


Fig. 11. Landplaas project priority list

5.1.4.3 Day 3: Rietpoort (9 March 2023)

Activity 1: Hazard Identification

Fig. 13. Rietpoort Gr1 hazard identification

Fig. 14. Rietpoort Gr2 hazard identification

Activity 1 Outcome: hazard mapping (see map below)

The hazards affecting farmers in Rietpoort, as identified by the participants:

- Silver: drought
- Yellow: pests
- Orange: predation (jackal)
- Light Blue: underground water: poor quality
- Black: wind

Activity 2 Outcome: project identification

Fig. 15. Rietpoort Gr1 hazard map & project identification

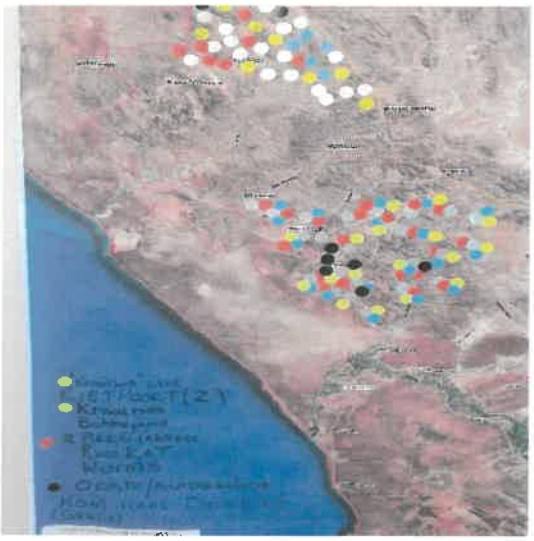


Fig. 16. Rietpoort Gr2 hazard map & project identification

Risk Assessment Outcome (West Coast)

- **Vulnerabilities identified as part of the hazard identification process.**
  - The need for an early warning system
  - Lack of research capabilities
  - Limited access to financial resources
  - Unreliable and expensive electricity
  - Government intervention not 'quick' enough
  - Poor water quality
  - Restricted access to markets
  - High transport costs to get goods to the markets
  - Inability to deal with crime, theft and/or predation.
- **Considerations**
  - Participants, especially those in the Matzikama Local Municipality, felt that the department must consider providing drought support as a matter of urgency.
  - The current conditions is placing a severe strain on farmers' finances, and unless the department can assist them, the threat of closure is very real.

- Follow-up engagements must ensure that participants are given sufficient time to discuss and engage around complex issues. The concerns raised, especially by emerging farmers, is of such a nature, that the DRR officials should broaden the stakeholder group to include the municipalities.

5.1.4.4 West Coast Risk Assessment Conclusion

Based on the feedback from the participants, the DRR team will continue to implement its activity-based risk assessments. This methodology allowed farmers and other stakeholders to engage more meaningfully with each other as well as with Departmental officials. It was agreed that participants re-evaluate the identified projects and continue to engage with the DRR Officials. Follow-up workshops will need to be conducted, to ensure that the projects identified, are implemented and does improve the resilience within the affected farming community or entity.

5.1.5 Central Karoo District Stakeholder Engagement

Similar to the West Coast District, previous engagements focussed primarily on farmers located in only drought-stricken areas across the province. The entire Central Karoo has not recovered sufficiently from the drought, and funding permitted, qualifying farmers located in the Central Karoo will continue to receive drought support. For sufficient veld recovery, these areas need at least three years of above average rainfall.

As a result of the ongoing drought in this region, the DRR officials have had multiple engagements with the Laingsburg, Beaufort West and Prince Albert farmers. The Laingsburg engagement consisted mainly of commonage farmers. Central Karoo farmers attending the risk assessments, agreed that it was imperative that they focus on risk reduction and mitigation strategies, which would contribute significantly to a more resilient and robust agricultural sector.

5.1.5.1 Day 1: Laingsburg (18 April 2023)

Activity 1: Hazard Identification

Fig. 17. Laingsburg Gr1 hazard identification

Fig. 18. Laingsburg Gr2 hazard identification

Activity 1 Outcome: hazard identification

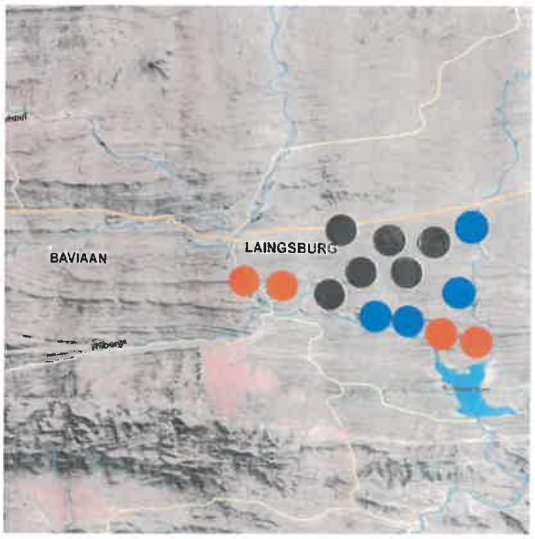


Fig. 19. Laingsburg Gr1 hazard map

Fig. 20. Laingsburg Gr2 hazard map

- The hazards affecting farmers in the Laingsburg Municipality as identified by the participants/farmers:
    - Orange: predators (dogs and human)
    - Yellow: pests affecting Lucerne pastures
    - Light blue: lack of water (boreholes)

- Dark Blue: flooding
- Silver: drought

Activity 2: Project Identification

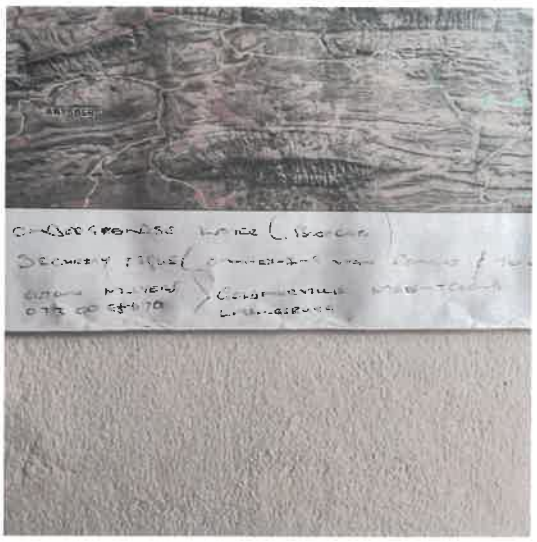


Fig. 21. Laingsburg Gr1 project identification

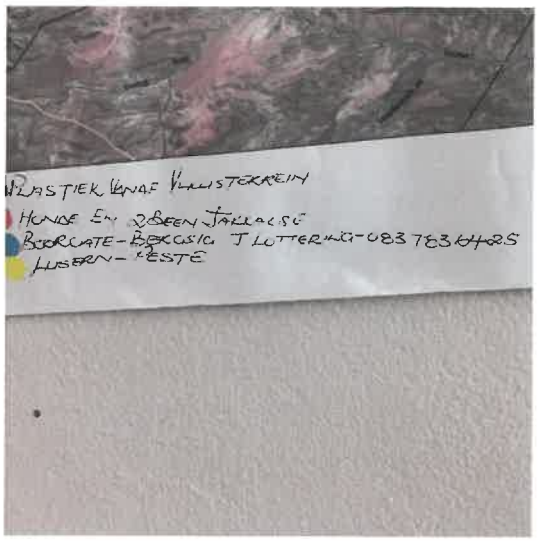


Fig. 22. Laingsburg Gr2 project identification

A number of projects were identified to deal with each of the hazards.

- Predation
  - This is a problem especially in the commonages.
  - Dogs and humans were identified as the main concern.
  - Fencing was proposed as a short-term solution.
  - There has to be engagement with SAPS, SPCA, the municipality and the Education department. This would allow all the stakeholders to clarify their roles when dealing with problem of dogs killing livestock and people stealing the livestock.

- Boreholes
  - Farmers identified a number of sites for possible borehole installation.
  - The DRR officials will communicate with affected farmers to investigate the viability of these locations.

- Other projects revolved around mitigating the drought, fire hazards and any possible flooding.

5.1.5.2 Day 2: Beaufort West (19 April 2023)

The poor attendance by Beaufort West farmers was a cause for concern. This especially, as farmers confirmed their attendance.

The department's officials discussed alternative ways to get farmers to attend future risk assessments. The following emerged from this discussion:

1. The department to engage farmers on their farms.
    - Farmers would save time and costs as engagements would occur on their farms, negating the need to travel.
    - DRR officials could then see first-hand the condition of the farms and the impact of disasters on the veld.

2. One of the reasons that farmers are not attending could be the absence of drought support. Successful, previous engagements with Central Karoo farmers coincided with these farmers receiving fodder support.

3. The DRR office must let farmers know that even though the department is no longer providing drought support, they are exploring viable area-specific disaster risk-reduction projects.

4. The timing of the risk assessments is crucial. Risk assessments must not occur during planting/harvesting/lambing season. This will ensure that farmers would be in a better position to attend the risk assessment workshops

5.1.5.3 Day 3: Prince Albert (20 April 2023)

Activity 1: Hazard Identification

Fig. 23. Prince Albert Gr1 hazard identification

Fig. 24. Prince Albert Gr2 hazard identification

Activity 1 Outcome: hazard identification

Fig. 25. Prince Albert Gr1 hazard map

Fig. 26. Prince Albert Gr2 hazard map

The hazards affecting the Prince Albert area, as identified by the participants:

- Silver: drought
- Yellow: pests
- Orange: predation (human)
- Yellow: pests (locusts)

- Red: fire
- Light Blue: underground water
- Dark Blue: rivers require river protection works
- Black: poor state of roads

Activity 2: Project Identification

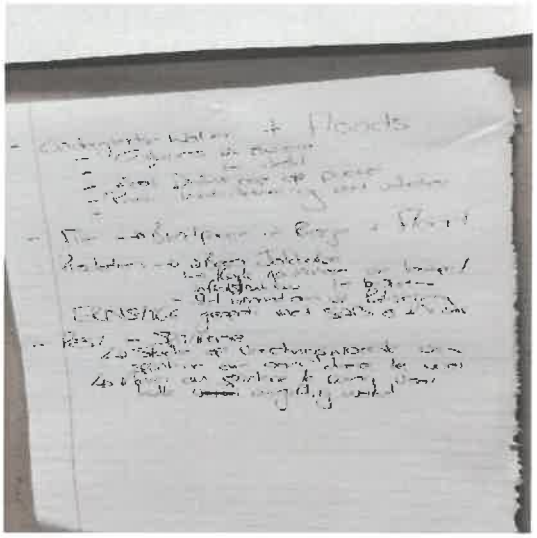


Fig. 27. Prince Albert Gr1 project identification

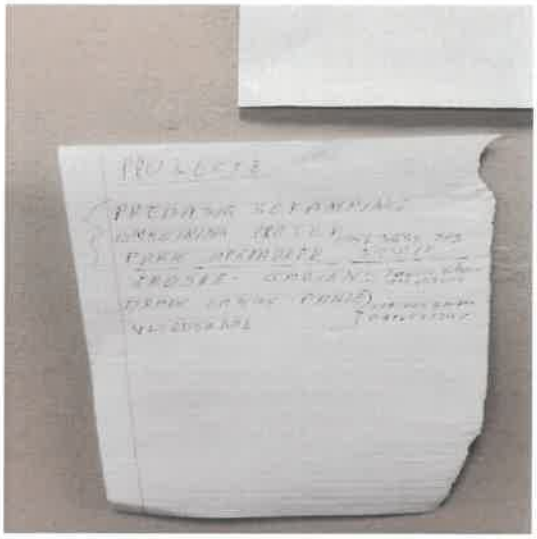


Fig. 28. Prince Albert Gr2 project identification

Projects Identified

- Projects related to ensuring that the Prince Albert Community is better prepared in the event of a fire was proposed. All highlighted the establishment and maintenance of firebreaks.
- River protection works projects must be initiated. This will ensure that rivers do not flood their banks, thereby avoiding soil damage.
- Predation (as in Laingsburg)
  - Humans were identified as the main culprits.
  - Fencing was proposed as a short-term solution.
  - There has to be engagement with SAPS, SPCA, the municipality and the Education department. This would allow all the stakeholders to clarify their roles when dealing with problem of dogs killing livestock and people stealing the livestock.

- The poor state of the roads are also hampering development. The DRR officials must liaise with the municipality and other state institutions.
- Pests, such as a locust could pose a real threat to the veld. The department has successfully mitigated against future locust infestations. Over the last 2 years, the department spent R4 992 500 to ensure that the Western Cape farmers are adequately protected against impending locust outbreaks.
- Ongoing engagement with the Prince Albert Commonage/emerging farmers is necessary, as many of the issues raised, are outside of the scope of the DRR Unit.

5.1.5.4 Central Karoo Risk Assessment Conclusion

Based on the feedback from the participants, the DRR team will continue to implement its activity-based risk assessments. This methodology allowed farmers to engage more meaningfully with each other as well as with Departmental officials. Follow-up workshops will need to be conducted to ensure that the work done during these engagements will bear fruit. The DRR officials, together with the relevant district officials, will discuss the identified projects, with the aim of implementing these projects timeously.

5.1.6 Overberg District Stakeholder Engagement:

This was DRR's first engagement with the Suurbraak emerging and smallholder farming community. In total, we had 19 farmers and interested community members in attendance. It was encouraging to note the participation and discussions between the attendees and departmental officials around climate change issues. This engagement has set the platform for future climate-change discussions and emphasised the importance of engaging with smaller farming communities.

As mentioned earlier, the department is committed to risk prevention, reduction and mitigation. The DRR unit, with the support of the department's district officials and Professor Midgley, implemented an activity based risk assessment. The participants engaged enthusiastically during this exercise. The participants identified the hazards affecting their community and what capacity they have to adequately deal with these hazards. Additionally, participants' highlighted areas of vulnerability. At the end of the exercise, participants discussed a number of projects, which they believed would

contribute to mitigating the risks associated with the identified hazards. These projects would also contribute to building resilience.

5.1.6.1 Suurbraak (07 December 2023)

Activity 1: Hazard Identification

Fig. 30. Suurbraak Gr1 hazard identification

Fig. 29. Suurbraak Gr2 hazard identification

Activity 1 Outcome: hazard identification

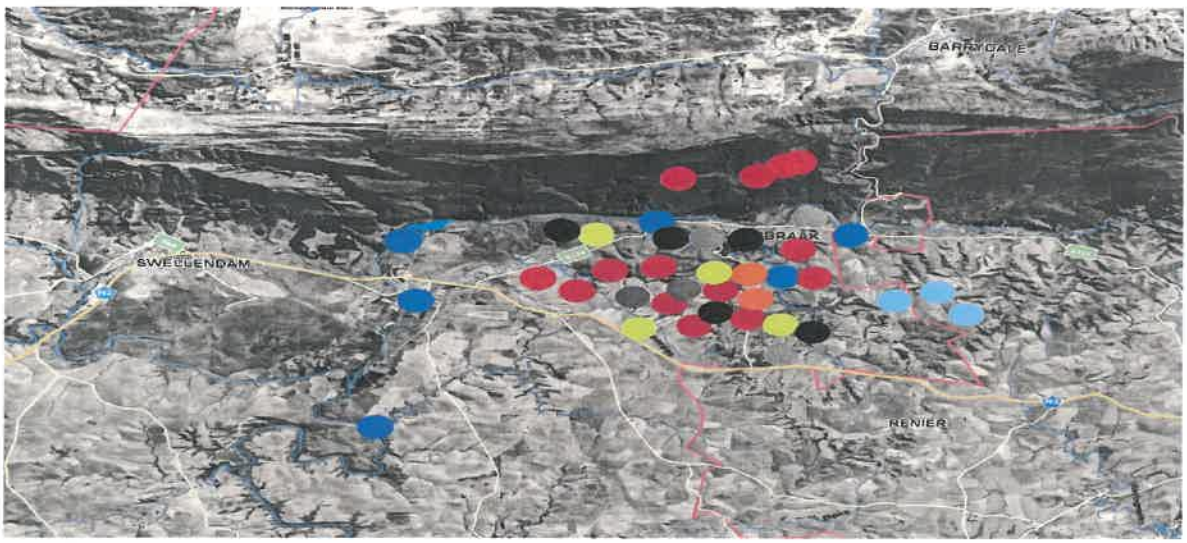


Fig. 31. Suurbraak hazard map

The hazards affecting Suurbraak as identified by the attendees:

- Silver: drought
- Red: fire
- Light Blue: Underground water (existing project put on hold)
- Dark Blue: flooding
- Yellow: pests ('bosluise', snails, wild pigs)
- Orange: predation (caracal, humans)
- Black: invasive alien species

Activity 2: Project Identification

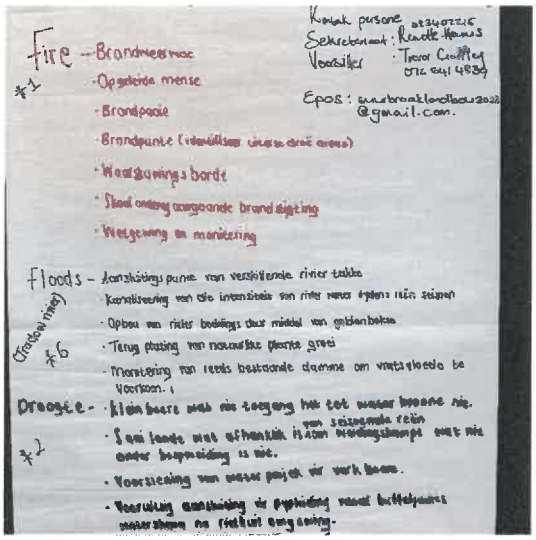


Fig. 32. Suurbraak projects & priority list

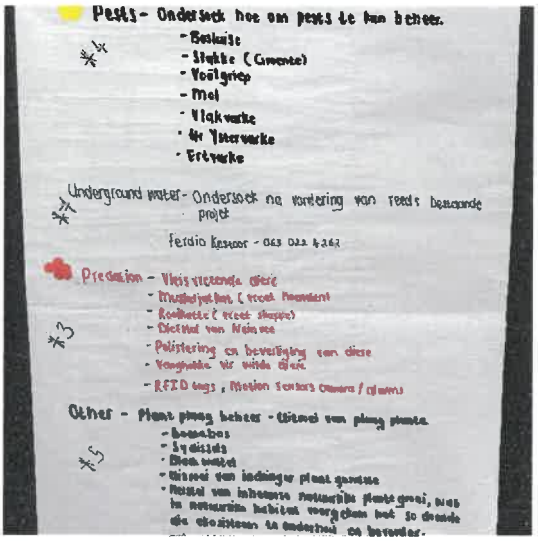


Fig. 33. Suurbraak project & priority list cont.

Projects Identified (Suurbraak farmers and community members)

- Projects related to ensuring that the Suurbraak Community is better prepared in the event of a fire was proposed. The establishment and maintenance of fire breaks, fire education in schools, and the training of volunteers were among some of the suggestions.
- River protection works projects must be initiated. This will ensure that rivers do not flood their banks, thereby avoiding soil damage.
- Underground Water: An existing borehole project needs to be revitalised.
- Invasive alien species: the removal of invasive alien species could be a source of employment

- The community suggested the building of a dam, which could service the Suurbraak community.

5.1.6.2 Overberg Risk Assessment Conclusion

The Suurbraak community expressed their gratitude for the department engaging with them on disaster and climate change issues. The farming community represented at the workshop is prepared to work with the department to ensure the sustainable use and management of existing resources.

5.2 SECTION B: Veld Assessments

The prolonged drought experienced in the Western Cape (2015-2018) resulted in the Western Cape Government (WCG) having to plan for a 'Day Zero' scenario. Engaging with farmers throughout the province however, a picture different picture emerged. Western Cape farmers have been experiencing drought condition since 2013, and this prolonged drought had a devastating impact on the agricultural community. The veld especially has suffered extensive damage and in 2018, the department developed its veld condition map. Based on the veld assessments performed by the department's plant scientists, the department was able to document the conditions of the veld across the province. The 2018 conditions was used as a baseline. This would enable the department to have a reference with which to compare all future veld conditions. The department could then ascertain whether the veld conditions have improved or deteriorated over time. This veld assessment is a crucial part of the long-term dataset and serves as a good indicator of a slow- onset drought.

Since 2018, the department has produced veld maps for 2019, 2020, 2021 and 2022. From these assessments, we see an improvement in the veld conditions across most parts of the Western Cape Province. Concurrently, the veld condition maps highlights the areas, which have not improved or have deteriorated over time. This allows the DRR programme to target these vulnerable areas, thereby utilising its scarce resources more effectively and efficiently.

Additionally, the veld assessments enable the department to implement area-specific risk-reduction and mitigation interventions. These interventions are developed in collaboration with farmers and other stakeholders.

5.2.1 Veld Categorisation

Key: Drought status/condition according to vegetation:

Table 1. Veld categorisation

Extremely critical (score 1)	Critical (score 2)	Very Dry (score 3)	Dry (score 4)	Fair (score 5)	Good (score 5+)

1. Extremely Critically Dry
    - The extremely critically dry areas are the plants that are black and some already turning white.
    - This means that that the veld is in the worst possible condition with little to no signs of life.
    - The extremely critical dry areas, marked red, would require monthly support, as the conditions are highly unfavourable in terms of the veld conditions and water availability.

2. Critically Dry
    - The critically dry areas, in orange, are areas that are still affected by the current drought conditions.
    - These areas however have experienced very little plant growth.
    - The critically dry areas however still require support every month, as the conditions are highly unfavourable in terms of the veld conditions and water availability.

3. Very Dry
    - Majority of the plants are living, but are very dry.
    - The plants do not break easily and there are still leaves present, although brown.
    - Little to no flowers present are visible. Grasses are dry (yellow), but not yet black
    - The very dry areas require support every alternate month.

4. Dry, with signs of recovery
    - Majority of the plants in the area are dry, with most of them bearing leaves.
    - The area consists of plants that are still green, some have flowers and show signs of regrowth.

5. Fair Condition
    - The area is still in a fair condition with most of the plants green with flowers and regrowth.
    - Grasses are dry, but still bear culms and inflorescence.

6. Good condition (5+)
    - Areas listed in the "green" column are classified as good, meaning that the veld conditions have improved to such an extent that the farmers can be removed from the drought support.

Should the veld conditions in any area in the Province deteriorate or improve over time, the department will reclassify the area and adjust the required drought support accordingly.

5.2.2 Evaluation Criteria

The department performs two (2) veld assessments annually. During the April period, the department focuses on the summer rainfall regions, when optimum veld conditions are expected at the end of its rainfall season, and similarly, during September, the department focuses on the winter rainfall regions, when optimum veld conditions are expected at the end of its rainfall season.

The following criteria is used to determine this evaluation:

- Climate
    - Rainfall history (monthly precipitation records)
    - Seasonal rainfall distribution (NDVI and PASG)

- Rangeland
    - Quality of grazing
    - Grazing capacity and production potential
    - Reserves available
    - Conservation status
    - Cover/trampling
    - Vegetation Conditions Index (VCI)

- Livestock[1]
    - Condition
    - Percentage stock reduction at the time of drought-evaluation
    - Dependence of livestock on planted pastures

- Water[1]
    - Water-table
    - Boreholes.

5.2.3 Supporting Documentation

The Vegetation Condition Index (VCI) compares the current NDVI to the range of values observed in the same period in previous years. The VCI is expressed in % and gives an idea of where the observed value is situated between the extreme values (minimum and maximum) of the previous years. Lower and higher values indicate bad and good vegetation state conditions, respectively. This was the map preferred by the drought-relief prioritisation committee. See the VCI map in Appendix B.

[1]Livestock and water was used as supportive information to the other criteria used.

5.2.4 March 2023 (summer rainfall areas)

5.2.4.1 Central Karoo

Table 2. Central Karoo district veld status (individual areas)

Areas visited	District	Scoring
1. Matjiesfontein	Laingsburg (winter rainfall)	5+
2. Soutkloof	Laingsburg (winter rainfall)	4
3. Dwars in die Weg	Laingsburg (winter rainfall)	4+
4. Klipfontein	Moordenaarskaroo	3+
5. Sandkraal	Moordenaarskaroo	3+
6. Beentjieshoogte	Moordenaarskaroo	3
7. Excelsior	Moordenaarskaroo	3+
8. Grootfontein	Koup	3
9. Vereniging	Koup	5
10. Spitskop	Koup	5+
11. Buffelsvlei	Koup	5-
12. Vaalleegte	Koup	4-
13. Wamakerskraal	Koup	3+
14. Swartbult	Prince Albert	3+
15. Combrinkskraal	Prince Albert	4-
16. Abrahamskraal	Prince Albert	4
17. Nelskraal	Beaufort West - West	5
18. Steynskraal	Beaufort West - West	5-
19. Lemoenfontein	Beaufort West - North	5+
20. Wittehart	Beaufort West - North	5+
21. Dunedin	Beaufort West - North	5+
22. Booiskraal	Beaufort West - North	5+
23. Hillandale	Beaufort West - North	5+
24. Content	Beaufort West - North	5+
25. Elandsfontein	Beaufort West - North	5+
26. Waterval	Murraysburg – Driehoeksfontein	5

27. Driehoeksfontein	Murraysburg – Driehoeksfontein	5
28. Jonkersnek	Murraysburg – Laer-Buffelsrivier	5+
29. Harmonie	Murraysburg - Laer-Buffelsrivier	5-
30. Langrug	Murraysburg - Laer-Buffelsrivier	4+
31. Stellenboschvlei	Murraysburg - Laer-Buffelsrivier	5
32. Dowefontein	Murraysburg - Laer-Buffelsrivier	5
33. Louwsbaken	Murraysburg - Laer-Buffelsrivier	5-
34. Bruinrug	Murraysburg - Laer-Buffelsrivier	5+
35. Bakensrug	Beaufort West - East	5
36. Mimosa Lodge	Beaufort West - East	5
37. Helvetia	Beaufort West - East	5+
38. Plaatdoorns	Beaufort West - East	5+
39. Lombardskraal	Beaufort West - South	5+
40. Moerbeifontein	Beaufort West - South	5+
41. Boplaas	Beaufort West - South	5+
42. Klipstawel	Beaufort West - South	5+
43. Aardoorns	Beaufort West - South	5+
44. De Put	Beaufort West - South	5+
45. Wolwekraal	Beaufort West - South	5+
46. Seekoegat	Beaufort West - South	5+
47. Droëkloof	Beaufort West - South	5+

Table 3. Central Karoo district veld status, prioritisation list

Priority	Status
1. Laingsburg – Winter rainfall	Fair
2. Moordenaarskaroo	Very dry
3. Koup	Dry
4. Prince Albert	Dry
5. Leeu-Gamka	Fair
6. Beaufort West - North	Good
7. Murraysburg – Driehoeksfontein	Fair

8. Murraysburg – Laer-Buffelsrivier	Fair
9. Beaufort West - East	Fair
10. Beaufort West - South	Good

- The veld in the Moordenaarskaroo is very dry, with smaller parts of the Koup and Prince Albert areas in a very dry condition (see VCI map).
- Majority areas of the Central Karoo received very good early season rainfall. However, many of these areas, especially towards the west, did not get follow-up rainfall during the rest of the season. This follow-up rainfall is needed to ensure sufficient regrowth.
- As the rainfall season has passed, these veld conditions in these areas will deteriorate quicker during the coming dry winter months.
- If and when fodder assistance is still available, the Department should focus on providing fodder support to farmers in the Moordenaarskaroo, and to some extent the Koup and Prince Albert areas (see VCI map).
- The rest of the Central Karoo is currently in a fair to good condition.

5.2.4.2 Garden Route District

Little Karoo district

Table 4. Little Karoo veld status (individual areas)

Areas visited	District	Scoring
1. Stolsvlakte	Oudtshoorn	5+
2. Zeekoerivier	Oudtshoorn	5+
3. Wilgerivier	Oudtshoorn	5+
4. Warmbad	Oudtshoorn	5+
5. Opsoek	Kannaland	5+
6. Knuy	Kannaland	5+
7. Wolwekop	Kannaland	5+
8. Bokkraal	Kannaland	5+
9. Zoutkloof	Kannaland	5+

10. Zandkraal	Kannaland	5+

- The veld in Little Karoo is currently in a good condition with the expectation of a winter rainy season ahead.

Hessequa district

Table 5. Hessequa Local Municipality veld status (individual areas)

Areas visited	District	Scoring
1. Driefontein	Hessequa	5+
2. Skoongeleë	Hessequa	5+
3. Stilbaai	Hessequa	5+
4. Droomwater	Hessequa	5+
5. Brakfontein	Hessequa	5+
6. Slangrivier	Hessequa	5+
7. Eerstekop	Hessequa	5+
8. Paardekloof	Hessequa	5+
9. Napky	Overberg	5+
10. Swellendam	Overberg	5+

- The area of the Hessequa and the far east of the Overberg is in a good condition.

Mossel Bay District

Table 6. Mossel Bay Local Municipality veld status (individual areas)

Areas visited	District	Scoring
1. Mosgas	Mossel Bay	5+
2. Buffelsfontein	Mossel Bay	5+
3. Gourits	Mossel Bay	5+

- The Mossel Bay district is currently in a good condition.

Table 7. Garden Route district veld status, prioritisation list

Priority	Status
1. Oudtshoorn	Good
2. Kannaland	Good
3. Hessequa	Good
4. Mossel Bay	Good

- The Garden Route district's veld is currently in a good condition.
- Many perennial plants however died due to the years of drought and it will take some time for the veld to recover to its full potential.
- Animal numbers should be kept low to allow for desirable plants to flower and drop their seeds before it is grazed. This is especially true for the Oudtshoorn and Kannaland areas.

5.2.4.3 Concluding Remarks (summer rainfall areas)

The veld in parts of the Central Karoo is in a good condition; however, there are still areas where the veld is dry to very dry. These dry to very dry areas include Moordenaarskaroo, Koup, and Prince Albert.

The veld in the Garden Route district is in a good condition.

5.2.5 September 2022 (winter rainfall areas)

5.2.5.1 West Coast District

Table 8. West Coast district veld status (individual areas)

Areas visited	Region	Scoring
1. Klipvlei	Swartland – West	5+
2. Glen Peter	Swartland – West	5+
3. Sandvlei	Swartland – West	5+
4. Koperfontein	Swartland – West	5+

5. Goedemanskraal	Swartland – East	5+
6. Spioenkop	Swartland – East	5+
7. Agterland	Swartland – East	5+
8. Uitsig	Swartland – East	5+
9. Saron	Swartland – East	5+
10. Bergrivierstasie	Sandveld	5+
11. Drommelvlei	Sandveld	5+
12. Aurora	Sandveld	5+
13. Berg-en-Dal	Sandveld	5+
14. Redelinghuys	Sandveld	5+
15. Leipoldtville	Sandveld	5+
16. Klipheuwel	Sandveld	5+
17. Verlorenvlei	Sandveld	5+
18. Drilrivier	Agterpakhuys	5+
19. Bushman's Cave	Agterpakhuys	5+
20. De Lille	Agterpakhuys	5+
21. Herenlogement	South of Vredendal	5+
22. Die Bakke	South of Vredendal	5+
23. Bergkraal	South of Vredendal	5+
24. Vaderlandsrietkuil	Knersvlakte-South	5+
25. Groot-Graafwater	Knersvlakte-South	5+

26. Graatjiesgat	Knersvlakte-North	5+
27. Kruispad	Knersvlakte-North	5+
28. Kokerboom	Kliprand-East	5+
29. Kamas	Kliprand-East	5+
30. Lieslap	Kliprand-West	5+
31. Willem	Kliprand-West	5+
32. Bokkraal	Kliprand-West	5+
33. Louw	Hardeveld	5+
34. Putsekloof	Hardeveld	5+
35. Kogelfontein	Hardeveld	5+
36. Kwaggaskop	Hardeveld	5+
37. Komkans	Northwest of Vredendal	5+
38. Landplaas	Northwest of Vredendal	5+
39. Namakwa Sands	Northwest of Vredendal	5+

Table 9. West Coast district veld status, prioritisation list

Priority	Area visited
1. Swartland – East	Good
2. Swartland – West	Good
3. Sandveld	Good
4. Agterpakhuys	Good

5. South of Vredendal	Good
6. Knersvlakte – South	Good
7. Knersvlakte - North	Good
8. Kliprand - East	Good
9. Kliprand – West	Good
10. Hardeveld	Good
11. Northwest of Vredendal	Good

The Swartland is currently in a good condition with ample fodder available. For the veld to recover, it will need at least two years of above-average rainfall. In addition, animal numbers should be kept below the recommended long-term grazing capacity for at least another year.

The Matzikama and Cederberg regions are in a good condition (see VCI maps). Full recovery of the veld might take more than two years of above-average rainfall. Similarly, animal numbers should be kept below the recommended long-term grazing capacity for at least another year.

5.2.5.2 Cape Winelands District

Table 10. Cape Winelands district veld status (individual areas)

Areas visited	**Region**	**Scoring**
1. Brewelsfontein	Witzenberg – east	5+
2. Perdekraal	Witzenberg – east	5+
3. Rietpoort	Witzenberg – east	5+

4. Sadawa	Witzenberg – west	5+
5. Bo-bos	Witzenberg – west	5+

Table 11. Cape Winelands district veld status, prioritisation list

Priority	Status
1. Witzenberg – west	Good
2. Witzenberg - east	Good

The Cape Winelands district is in a good condition (see VCI maps). Full recovery of the veld might take more than two years of above average rainfall. Similarly, animal numbers should be kept below the recommended long-term grazing capacity for at least another year.

5.2.5.3 Overberg District

Table 12. Overberg district veld status (individual areas

Areas visited	**Region**	**Scoring**
1. Rietfontein	Cape Agulhas	5+
2. Klipdale	Cape Agulhas	5+
3. Klipdrift	Cape Agulhas	5+
4. Witklippieskloof	Theewaterskloof	5+
5. Oudekraal	Theewaterskloof	5+
6. Rietfontein	Theewaterskloof	5+

Table 13. Overberg district veld status, prioritisation list

Priority	Status
3. Cape Agulhas	Good
4. Theewaterskloof	Good

The Overberg district is in a good condition, with normal to above-normal crop stands across the region.

5.2.5.4 Concluding Remarks (winter rainfall areas)

For the first time in many years, the winter rainfall region of the Western Cape is overall in a good condition. As recent as 2022, the Matzikama, Cederberg and Witzenberg districts were still in a dry to very dry condition. We recommend that, if farmers do increase their animal numbers, they should do it gradually. This will give the veld a better chance to recover, and for any new plants to establish themselves.

6. CONCLUSION

The Western Cape experienced an increase in both the frequency and intensity of disasters. The department has thus shifted its focus to develop and implement disaster risk-reduction, mitigation and prevention strategies. Whilst the focus is on disaster prevention, reduction and mitigation, the department continues to provide post-disaster support to farmers impacted by disasters.

Having just emerged from a crippling 9-year drought, 2023 proved an extremely challenging period for farmers. Floods, fires, pests, predation and a difficult economic climate are only some of the challenges farmers and the agricultural sector faced. Through the provincial agricultural disaster risk assessments, the DRR Unit identified a number of risk factors which, if not addressed, could potentially destabilize the farming community. These risk factors include, but are not limited to, climate change, predation, unstable and expensive electricity supply, alien vegetation, unsustainable farming practices and unprotected river systems.

The department, through its dedicated Disaster Risk Reduction Programme will continue to build and maintain resilience within the farming community, thereby protecting its farmers from the negative impact of disasters.

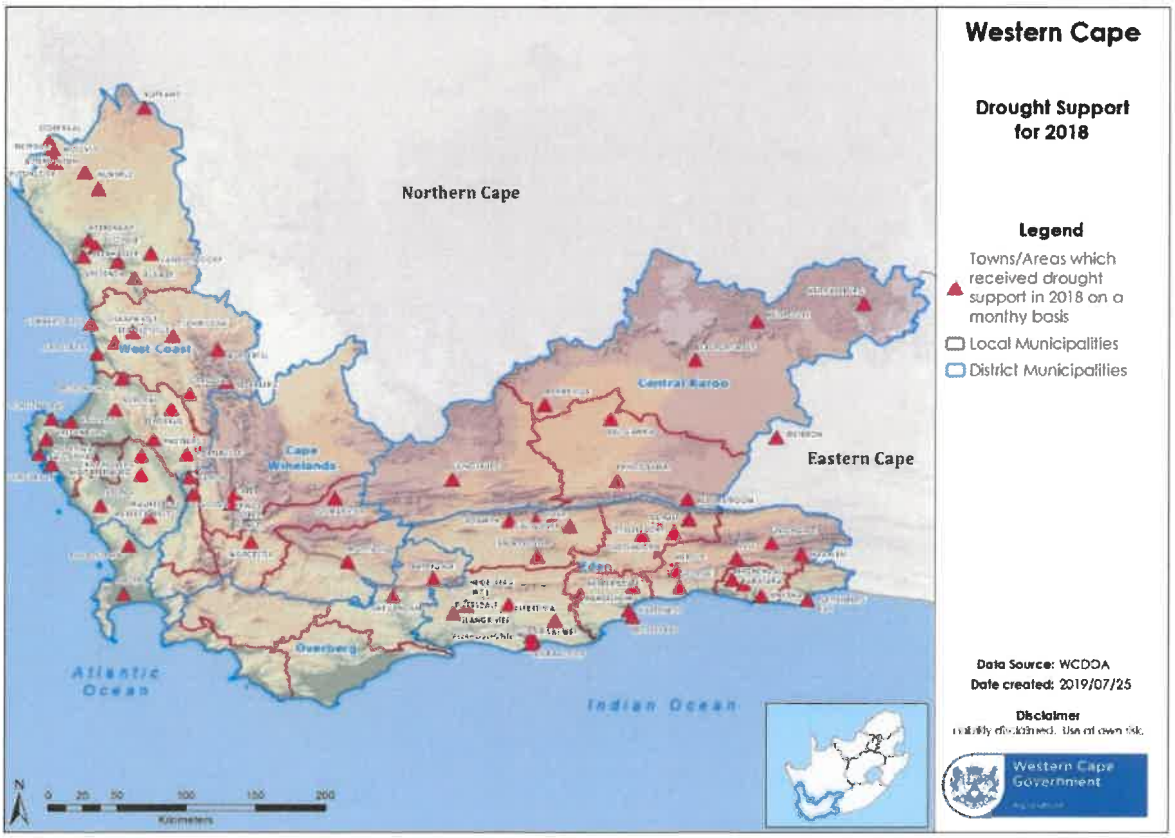
7. ANNEXURES

7.1 Annexure A: Drought maps

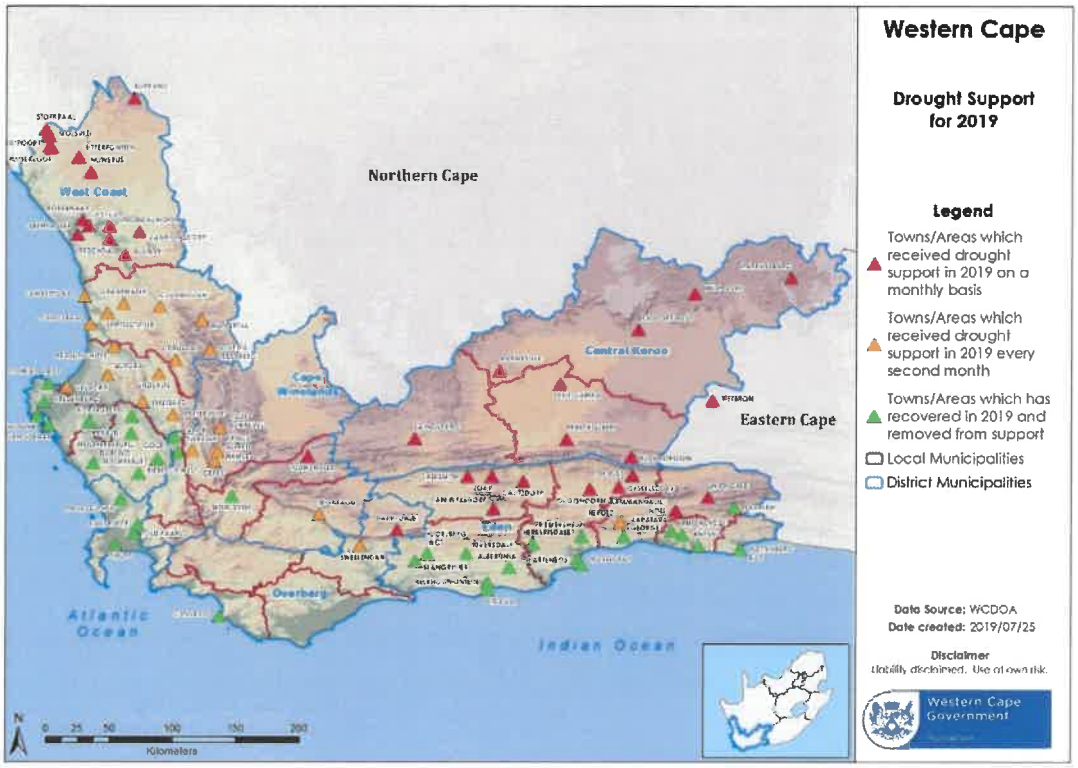
Drought maps identify the veld conditions in the areas across the province and the resultant level of drought support required (Drought Maps 2018 -2023)

I. Areas marked in Green do not require drought support.
II. Areas marked in Orange are categorised as 'critical'.
III. Areas marked in Red are categorised as 'extremely critical'.

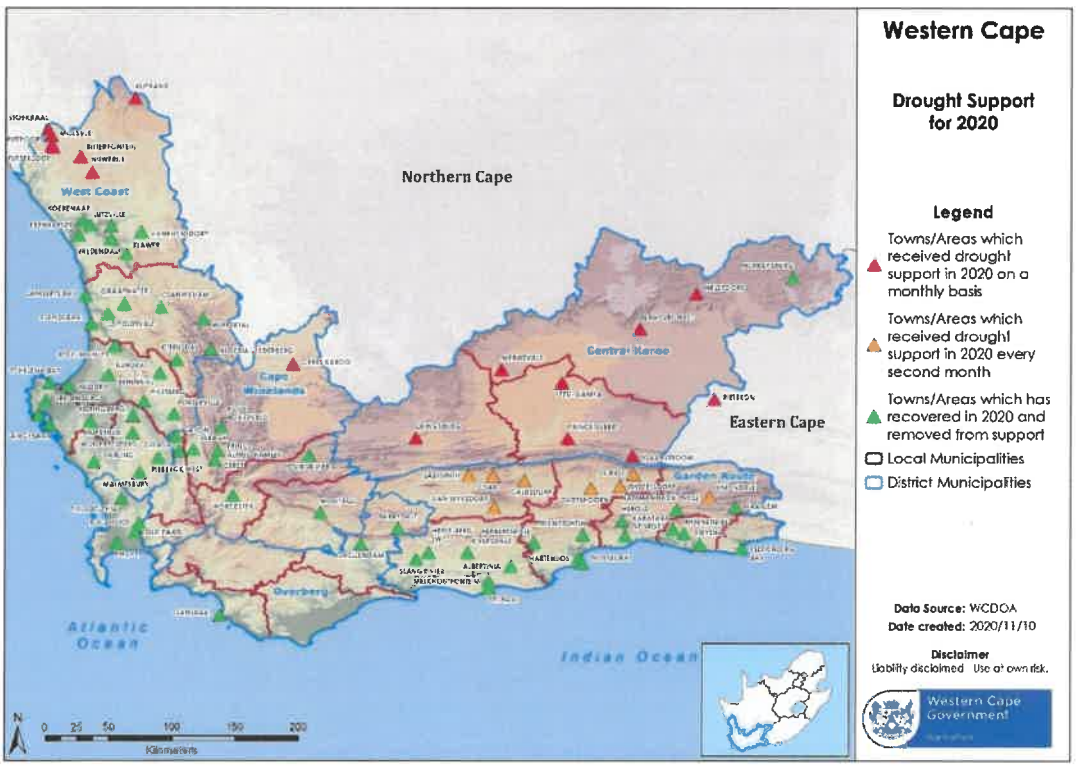
WCDoA: Drought Support Map 2018



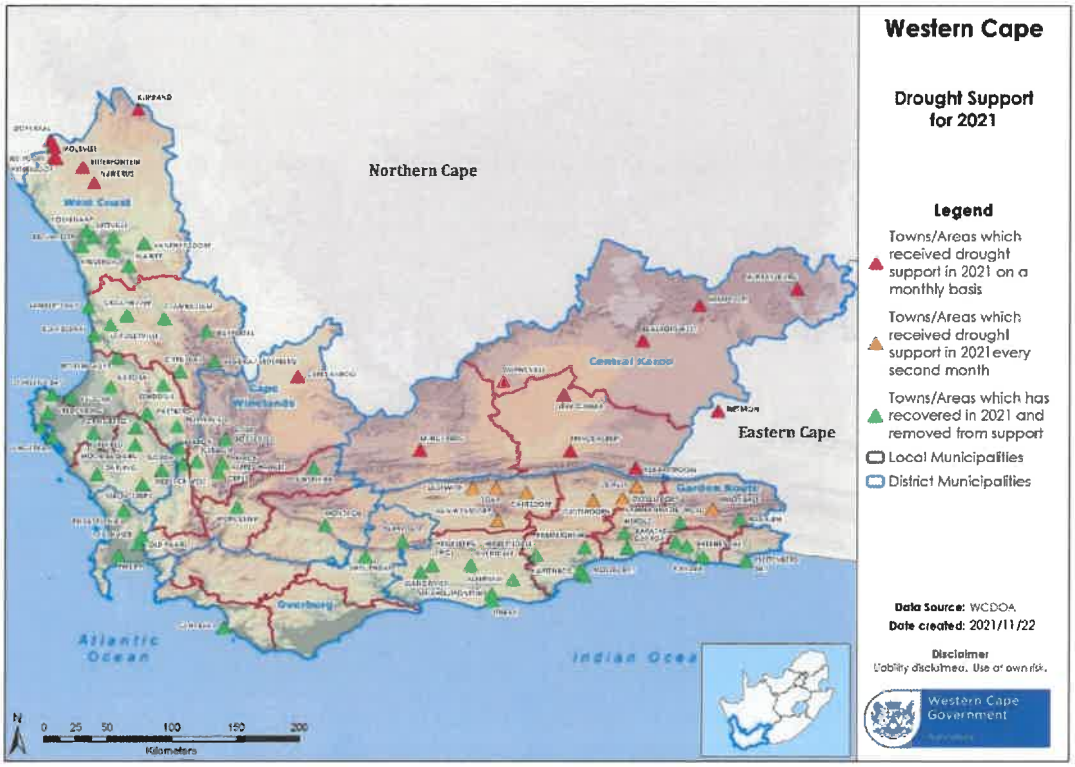
WCDoA: Drought Support Map 2019



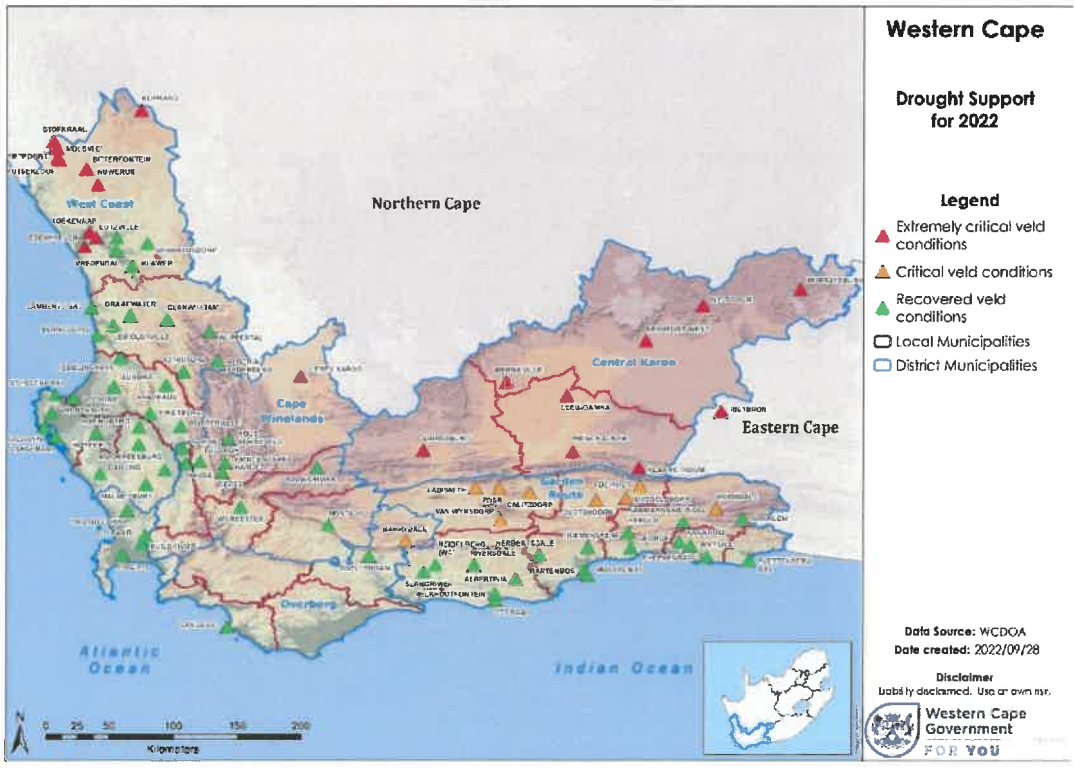
WCDoA: Drought Support Map 2020



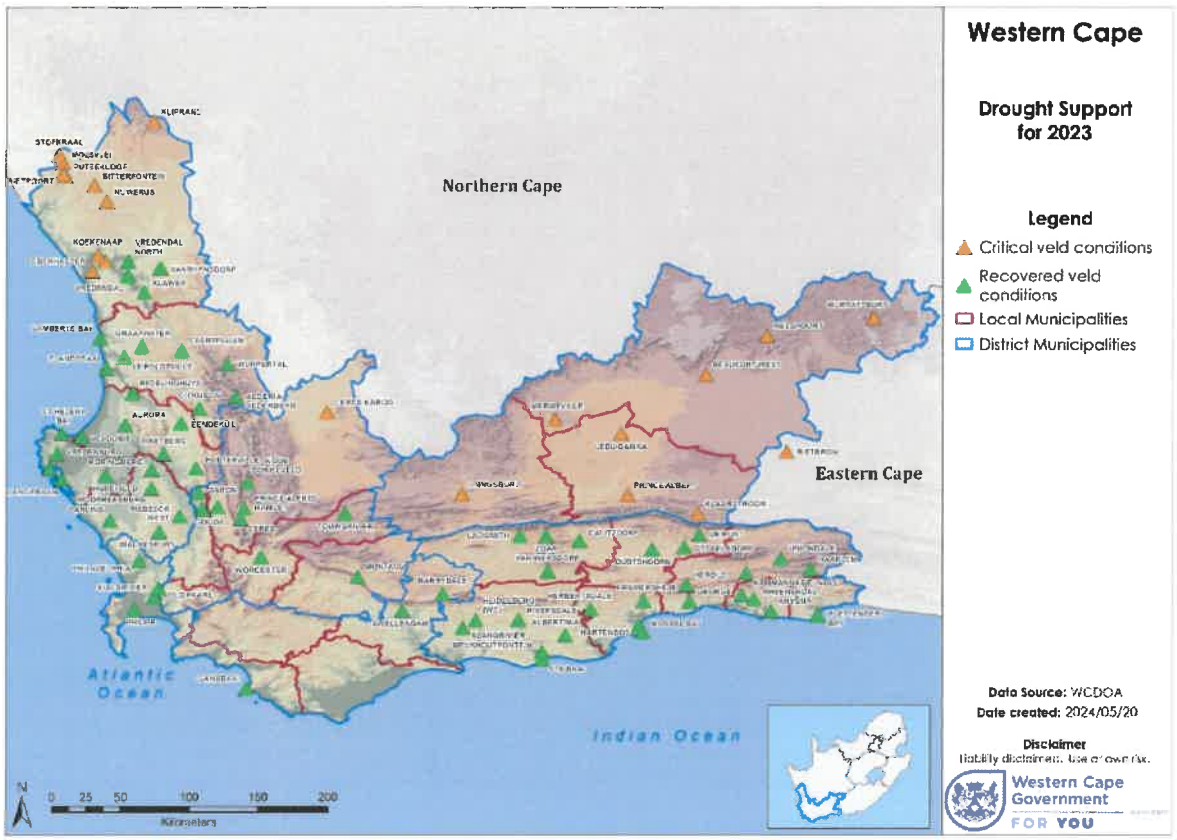
WCDoA: Drought Support Map 2021



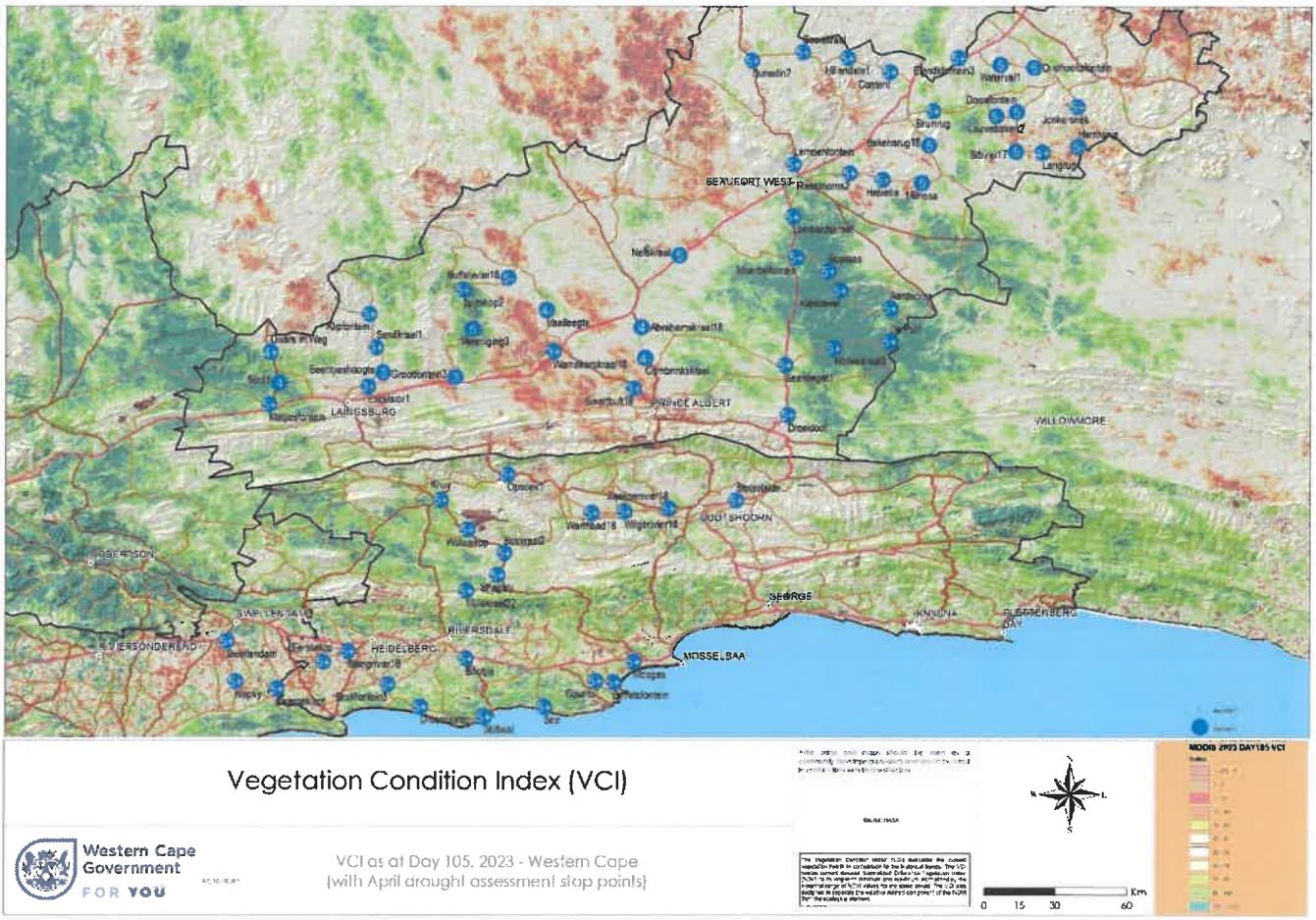
WCDoA: Drought Support Map 2022



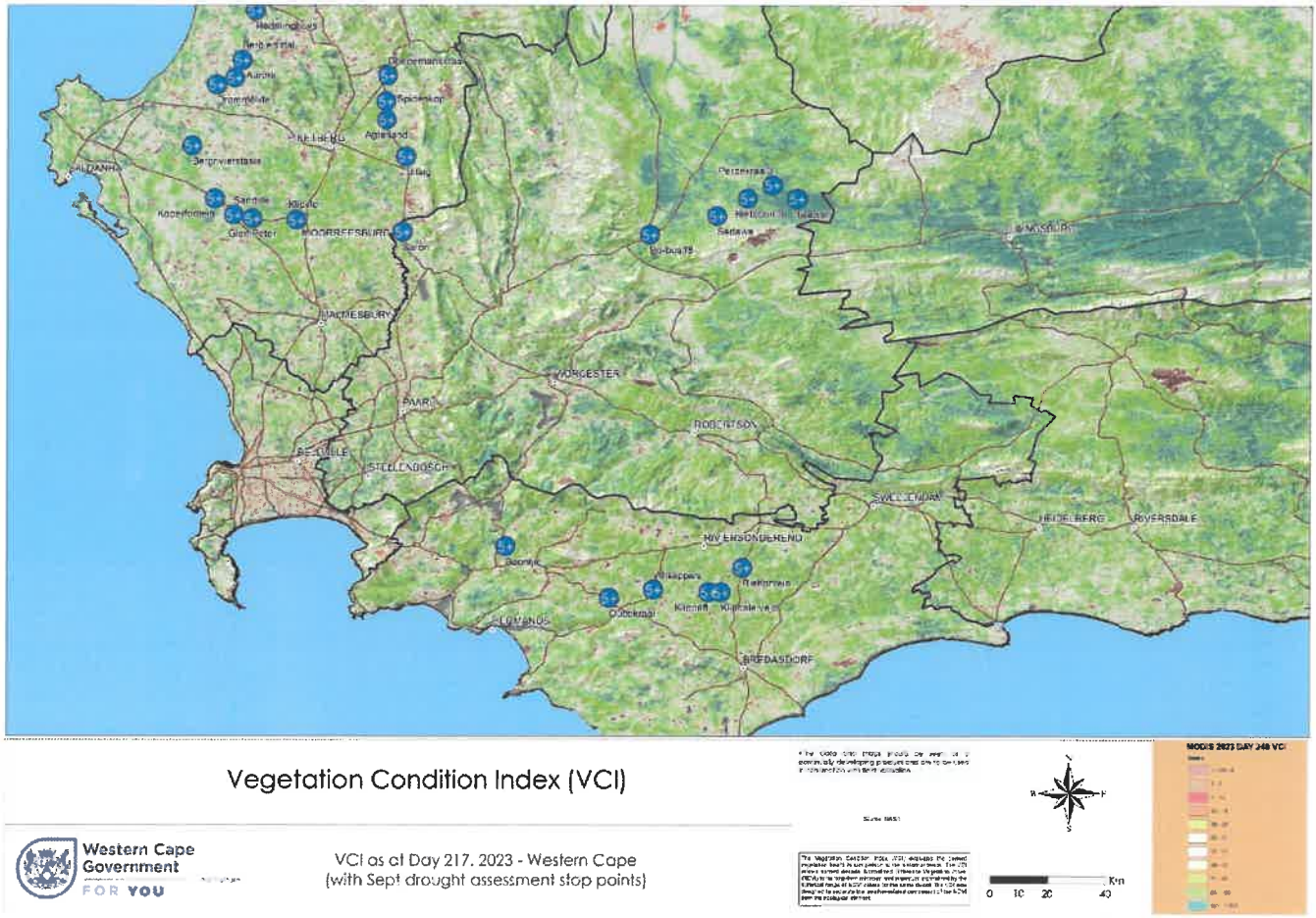
WCDoA: Drought Support Map 2023



7.2 Annexure B: Vegetation Condition Index (VCI) (Day 105) Central Karoo & Garden Route stop points



7.3 Annexure C: Vegetation Condition Index (VCI) (Day 217) West Coast, Overberg & Cape Winelands stop points



COMPILED BY:

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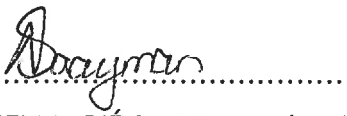
6/9/2024

LM MARTHINUSSEN DATE:

DISASTER MANAGER: DISASTER RISK REDUCTION: SUSTAINABLE RESOURCE USE AND MANAGEMENT

TECHNICAL INPUTS PROVIDED BY:



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9/9/2024

MS NELMARIÉ SAAYMAN (Pr. Sci. Nat.) DATE:

PROFESSIONAL SCIENTIST (RANGELANDS): RESEARCH AND TECHNOLOGY DEVELOPMENT SERVICES

TECHNICAL INPUTS PROVIDED BY:

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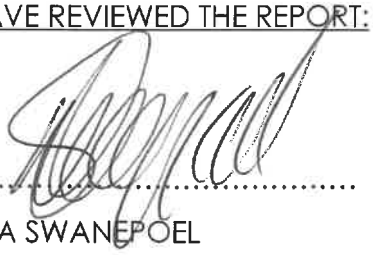
09/09/2024

JN WENTZEL (Pr. Techni Eng) DATE:

SUB PROGRAMME MANAGER: DISASTER RISK REDUCTION: SUSTAINABLE RESOURCE USE AND MANAGEMENT

I HAVE REVIEWED THE REPORT:



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10/9/2024

MS A SWANEPOEL DATE:

ACTING CHIEF DIRECTOR: RESEARCH AND TECHNOLOGY DEVELOPMENT SERVICES

I HAVE REVIEWED THE REPORT:

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10/09/2024

MS A PETERSEN DATE:

DIRECTOR: SUSTAINABLE RESOURCE USE & MANAGEMENT

I HAVE REVIEWED THE REPORT:

.....

10/09/24

DR I TRAUTMANN

DATE:

DDG: AGRICULTURAL RESEARCH REGULATORY SERVICES

SUPPORTED/NOT SUPPORTED:

.....

10/9/2024

MR DW JACOBS

DATE:

DDG: AGRICULTURAL DEVELOPMENT AND SUPPORT SERVICES