

PRELIMINARY ACCIDENT REPORT

Accident and Incident Investigations Division

Accident  
- Preliminary Report -  
AIID Ref No: CA18/2/3/10587



**Figure 1:** The file picture of the ZS-MZJ aircraft.

(Source: <https://www.aircraft.com/ru/aircraft/240226913/zs-mzj-1984-cessna-210n>)

Description:

On Thursday morning, 5 June 2025, a pilot and a passenger on-board a Cessna 210 aircraft with registration ZS-MZJ intended to take off from Lanseria International Airport (FALA) in Gauteng province to Hosea Kutako International Airport (FYWH) in Windhoek, Namibia, when the accident occurred. The personnel who refuelled the aircraft at the fuel bay in FALA stated that he uplifted a total of 470 litres (L) of fuel. Of the 470L, 225L was uplifted to a bladder-type ferry tank. The personnel stated that the pilot assisted him to refuel the aircraft.

According to one of the eyewitnesses, the aircraft had a longer-than-normal take-off roll on Runway 07. The eyewitness further stated that during the take-off roll, the air traffic control (ATC) personnel requested the pilot to confirm "OPS NORMAL" (operation normal), and the pilot responded that all was well; however, she

requested to return to FALA for landing. Another eyewitness who was stationed at Lion and Safari Park Nature Reserve's main centre observed smoke in the nature reserve and drove towards that section to investigate. He was met by an injured man who was walking away from the aircraft that was engulfed in flames. The eyewitness enquired from the man about the number of people on-board the aircraft; he responded that there were two occupants, and that the pilot was fatally injured. Emergency services dispatched to the accident scene after they were notified about the accident; a water tanker was used to douse the fire. The aircraft was destroyed during the accident.

## Occurrence Details

Reference Number	: CA18/2/3/10587
Occurrence Category	: Category 1 (Accident)
Type of Operation	: Private (Part 91)
Name of Operator	: Warne Aviation
Aircraft Registration	: ZS-MZJ
Aircraft Make and Model	: Cessna T210N
Nationality	: South African
Registration Marks	: ZS-MZJ
Place	: 5.78 nm from the threshold of Runway 25 at FALA
Date and Time	: 5 June 2025 at 0850Z
Injuries	: One seriously injured; one fatally injured
Damage	: Destroyed

## Purpose of the Investigation

*In terms of Regulation 12.03.1 of the Civil Aviation Regulations (CAR) 2011, this report was compiled in the interest of the promotion of aviation safety and the reduction of the risk of aviation accidents or incidents and not to apportion blame or liability.*

*All times given in this report are Co-ordinated Universal Time (UTC) and will be denoted by (Z). South African Standard Time is UTC plus 2 hours.*

## Investigation Process

The Accident and Incident Investigations Division (AIID) of the South African Civil Aviation Authority (SACAA) was notified of the occurrence involving a Cessna 210 aircraft at Lion and Safari Park Nature Reserve in North West province on 5 June 2025 at 0850Z. The occurrence was classified as an accident according to the CAR 2011 Part 12 and the International Civil Aviation Organisation (ICAO) STD Annex 13 definitions.

The AIID has appointed an investigator-in-charge and a co-investigator who were dispatched to the accident site to commence with the full investigation. Notifications were sent to the State of Registry and Operator in accordance with the CAR 2011 Part 12 and the ICAO Annex 13 Chapter 4. The States did not appoint an accredited representative and/or advisor. The AIID will lead the investigation and issue the final report of this accident in accordance with the CAR 2011 Part 12 and the ICAO Annex 13.

The information contained in this preliminary report is derived from the information gathered during the on-going investigation into the occurrence. Later, an interim or final report may contain altered information in case new evidence is found during the on-going investigation that requires changes to the information depicted in this report.

The AIID reports are made available to the public at:

[Accidents and Incidents – SACAA](#)

Notes:

1. *Whenever the following words are mentioned in this report, they shall mean the following:*

*Accident — this investigated accident*

*Aircraft — the Cessna T210N involved in this accident*

*Investigation — the investigation into the circumstances of this accident*

*Pilot — the pilot involved in this accident*

*Report — this accident report*

- 2. Photos and figures used in this report were taken from various sources and may have been adjusted from the original for the sole purpose of improving clarity of the report. Modifications to images used in this report were limited to cropping, magnification, file compression; or enhancement of colour, brightness, contrast; or addition of text boxes, arrows, or lines.*

## **Disclaimer**

This report is produced without prejudice to the rights of the SACAA, which are reserved.

## Table of Contents

Description .....	1
Purpose of the Investigation .....	3
Investigation Process.....	3
Disclaimer .....	4
Contents Page .....	5
Abbreviations .....	6
1. FACTUAL INFORMATION .....	7
1.1. History of Flight.....	7
1.2. Injuries to Persons .....	8
1.3. Damage to Aircraft.....	8
1.4. Other Damage .....	9
1.5. Personnel Information.....	9
1.6. Aircraft Information .....	10
1.7. Meteorological Information .....	11
1.8. Aids to Navigation .....	11
1.9. Communication .....	12
1.10. Aerodrome Information .....	12
1.11. Flight Recorders .....	12
1.12. Wreckage and Impact Information.....	12
1.13. Medical and Pathological Information.....	14
1.14. Fire.....	14
1.15. Survival Aspects .....	14
1.16. Tests and Research.....	14
1.17. Organisational and Management Information .....	14
1.18. Additional Information .....	14
1.19. Useful or Effective Investigation Techniques .....	15
2. FINDINGS .....	15
3. ON-GOING INVESTIGATION.....	16
4. APPENDICES .....	16
5. SAFETY RECOMMENDATIONS.....	16

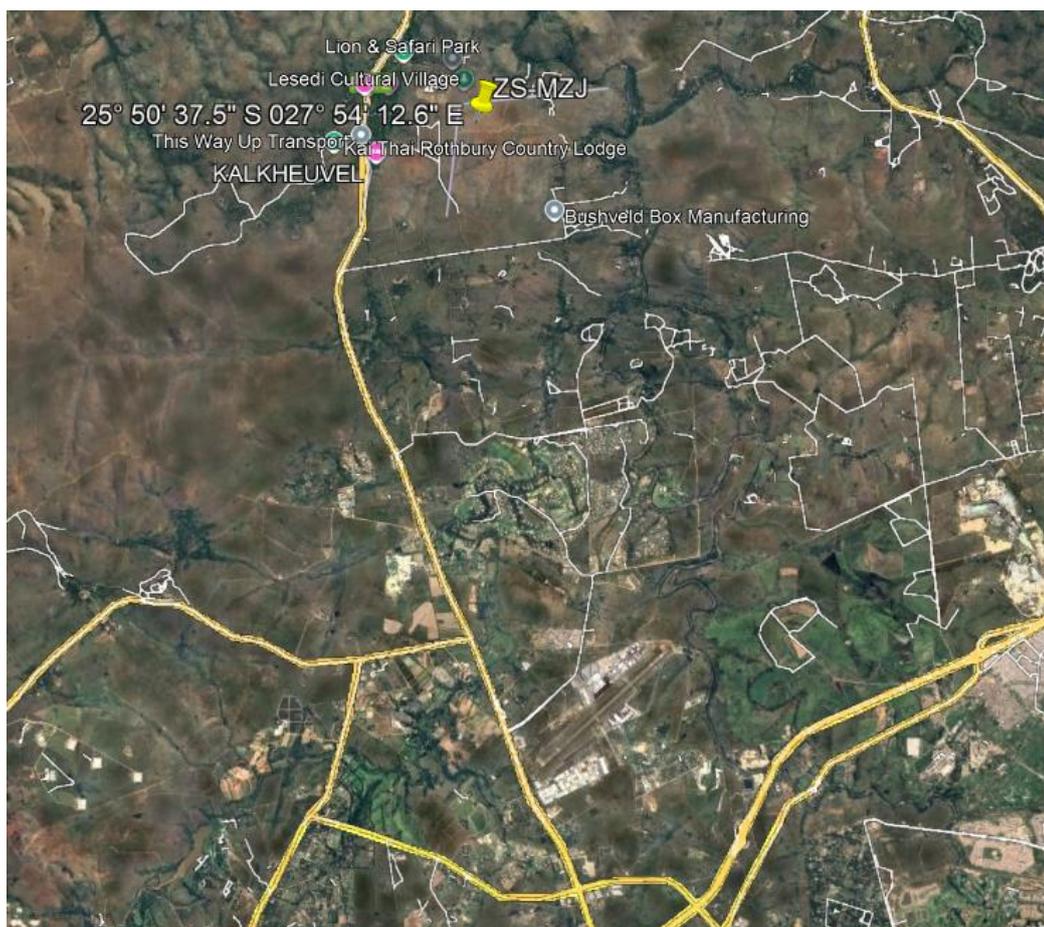
<b>Abbreviation</b>	<b>Description</b>
°	Degrees
°C	Degrees Celsius
ACCID	Accident
AIID	Accident and Incident Investigations Division
AMO	Aircraft Maintenance Organisation
C of A	Certificate of Airworthiness
C of R	Certificate of Registration
CAR	Civil Aviation Regulations
CAVOK	Cloud and Visibility OK
CPL	Commercial Pilot Licence
CRS	Certificate of Release to Service
CVR	Cockpit Voice Recorder
FALA	Lanseria International Airport
FYWH	Hosea Kutako International Airport
FDR	Flight Data Recorder
ft	Feet
GPS	Global Positioning System
hPa	Hectopascal
kt	Knots
m	Metres
METAR	Meteorological Aerodrome Report
MHz	Megahertz
nm	Nautical Miles
QNH	Altitude Above Mean Sea Level
RWY	Runway
SACAA	South African Civil Aviation Authority
SAWS	South African Weather Service
VMC	Visual Meteorological Conditions
Z	Zulu (Term for Universal Co-ordinated Time - Zero Hours Greenwich)

## 1. FACTUAL INFORMATION

### 1.1. History of Flight

- 1.1.1. On Thursday morning, 5 June 2025, a pilot and a passenger on-board a Cessna 210 aircraft with registration ZS-MZJ intended to take-off on a private international flight from Lanseria International Airport (FALA) in Gauteng province with the intention to land at Hosea Kutako International Airport (FYWH) in Windhoek, Namibia. Clear weather conditions prevailed at the time of the flight which was conducted under visual meteorological conditions (VMC) and under the provisions of Part 91 of the Civil Aviation Regulations (CAR) 2011 as amended.
- 1.1.2. The personnel who refuelled the aircraft at the fuel bay in FALA stated that he uplifted a total of 470 litres (L) of fuel. Of the 470L, 225L was uplifted to a bladder-type ferry tank. The personnel stated that the pilot assisted him to refuel the aircraft.
- 1.1.3. According to Eyewitness 1, the aircraft had a longer-than-normal take-off roll on Runway 07. Eyewitness 1 further stated that during the take-off roll, the air traffic control (ATC) personnel requested the pilot to confirm "OPS NORMAL" (operation normal), and the pilot responded that all was well; however, she requested to return to FALA for landing.
- 1.1.4. Eyewitness 2 recorded a video of ZS-MZJ's take-off from Runway 07. The footage showed the aircraft in ground effect approximately 2.3 kilometres (km) after the take-off roll from Runway 07.
- 1.1.5. Later, Eyewitness 3, who was stationed at Lion and Safari Park Nature Reserve's main centre, observed smoke in the nature reserve and drove towards that section to investigate. Eyewitness 3 was met by an injured man who was walking away from the crashed aircraft which was engulfed in flames. Eyewitness 3 enquired from the man about the number of people on-board the aircraft. The man responded that there were two occupants on-board, and that the pilot was fatally injured. Emergency services dispatched to the accident scene after they were notified about the accident. A water tanker was used to douse the fire.
- 1.1.6. The pilot was fatally injured, and the passenger (man) sustained serious burn injuries. He was airlifted to a hospital.
- 1.1.7. The accident occurred at Lion and Safari Park Nature Reserve, approximately 5.78 nautical miles (nm) from the end of Runway 25, at Global Positioning System (GPS) co-

ordinates determined to be 25° 50' 37.5" South 027° 54' 12.6" East, at an elevation of 4232 feet (ft).



**Figure 2:** The yellow pin indicates the accident site. (Google Earth)

## 1.2. Injuries to Persons

Injuries	Pilot	Crew	Pass.	Total On-board	Other
Fatal	1	-	-	1	-
Serious	-	-	1	1	-
Minor	-	-	-	-	-
None	-	-	-	-	-
<b>Total</b>	<b>1</b>	<b>-</b>	<b>1</b>	<b>2</b>	<b>-</b>

Note: Other means people on the ground.

1.2.1. The pilot was fatally injured and the passenger sustained serious burn injuries. He was airlifted to a nearby hospital.

## 1.3. Damage to Aircraft

1.3.1. The aircraft was destroyed by impact forces and the post-impact fire.



**Figure 3:** The wreckage post-accident.

**1.4. Other Damage**

1.4.1. None.

**1.5. Personnel Information**

Nationality	South African	Gender	Female	Age	25
Licence Type	Commercial Pilot Licence (CPL)				
Licence Valid	Yes	Type Endorsed	Yes		
Ratings	Instrument rating				
Medical Expiry Date	30 November 2025				
Restrictions	None				
Previous Accidents	None				

Note: Previous accidents refer to past accidents the pilot was involved in, when relevant to this accident.

Flying Experience:

The following information is an extract from the pilot's previous licence revalidation details completed on 5 December 2024.

Total Hours	317.3
Total Past 24 Hours	Unknown
Total Past 7 Days	Unknown
Total Past 90 Days	Unknown
Total on Type Past 90 Days	Unknown
Total on Type	Unknown

- 1.5.1. The pilot had a Commercial Pilot Licence (CPL) that was initially issued on 12 February 2024. The CPL was renewed on 5 December 2024 with an expiry date of 31 January 2026.
- 1.5.2. The pilot had a Class 1 aviation medical certificate that was issued on 30 November 2024 with an expiry date of 30 November 2025 with no medical restrictions.
- 1.5.3. The pilot completed her conversion training to a Cessna 210 on 30 October 2024.
- 1.5.4. The pilot's logbook was requested, and her flying experience is still under review.

1.6. **Aircraft Information**

- 1.6.1. Cessna T210 Description (Source: Pilot's Operating Handbook [POH])

*The Cessna T210 is a six-seater, high-wing aircraft fitted with single engine with a fully retractable tricycle landing gear.*

**Airframe:**

Manufacturer/Model	Cessna Aircraft Company, Cessna T210N	
Serial Number	210-64886	
Year of Manufacturer	5 July 2019	
Total Airframe Hours (At Time of Accident)	Unknown	
Last Inspection (Date & Hours)	8 May 2025	4334.5
Hours Since Last Inspection	Unknown	
CRS Issue Date	8 May 2025	
C of A (Issue Date & Expiry Date)	10 October 2024	30 November 2025
C of R (Issue Date) (Present Owner)	12 December 2022	
Type of Fuel Used	Avgas 100LL	
Operating Category	Private (Part 91)	
Previous Accidents	Yes	

Note: Previous accidents refer to past accidents the aircraft was involved in, when relevant to this accident.

**Engine:**

Manufacturer/Model	Continental / IO-520-F16
Serial Number	1010609
Hours Since New	1034.5
Hours Since Overhaul	121.7

**Propeller:**

Manufacturer/Model	Hartzell / PHC-J3YF-1RF
Serial Number	FP6395B
Hours Since New	1034.5
Hours Since Overhaul	2.2

- 1.6.2. The aircraft underwent a 100-hour mandatory periodic inspection (MPI) on 8 May 2025. The Certificate of Release to Service (CRS) was issued on 8 May 2025 at 4334.5 hours with an expiry date of 7 May 2026 or at 4434.5 hours, whichever comes first.
- 1.6.3. The aircraft maintenance organisation (AMO) that certified the MPI was issued an AMO Certificate by the Regulator (SACAA) on 20 May 2024 with an expiry date of 31 May 2025.
- 1.6.4. A bladder ferry tank was fitted to the aircraft at the time of the flight. The installation record of the bladder ferry tank was not documented.

**1.7. Meteorological Information**

- 1.7.1. The weather information below was obtained from the Meteorological Aerodrome Report (METAR) that was issued by the South African Weather Service (SAWS), recorded at FALA on 5 June 2025 at 0800Z. FALA is located 5.78nm from the accident site.

Wind Direction	030°	Wind Speed	12 kt	Visibility	CAVOK
Temperature	15°C	Cloud Cover	None	Cloud Base	None
Dew Point	08°C	QNH	1032 hPa		

**1.8. Aids to Navigation**

- 1.8.1. The aircraft was equipped with standard navigational equipment as approved by the Regulator. There were no records indicating that the navigational equipment was unserviceable prior to the flight.

## 1.9. Communication

1.9.1. The aircraft was equipped with a standard communication system as approved by the Regulator. There were no recorded defects with the communication system prior to the flight.

## 1.10. Aerodrome Information

1.10.1. The accident occurred approximately 5.78nm from FALA, Runway 25.

Aerodrome Name	Lanseria International Airport (FALA)
Aerodrome Location	Gauteng Province
Aerodrome Status	Licensed
Aerodrome GPS coordinates	25°49'46" South, 029°11'41" East
Aerodrome Elevation	4520 ft
Runway Headings	07/25
Dimensions of Runway Used	2996 X 45m
Heading of Runway Used	RWY 07
Surface of Runway Used	Asphalt
Approach Facilities	RNAV 07 ILS 07
Radio Frequency	124.0 MHz

## 1.11. Flight Recorders

1.11.1. The aircraft was neither equipped with a flight data recorder (FDR) or a cockpit voice recorder (CVR), nor was it required by regulation to be fitted to the aircraft type.

## 1.12. Wreckage and Impact Information

1.12.1. The accident occurred on a rocky terrain within the Lion and Safari Park Nature Reserve. The main wreckage and the detached components were located within a 75-metre (m) radius. The wreckage faced north-westerly; the wings, vertical and horizontal stabilisers were still attached to the fuselage. Most of the fuselage was consumed by the post-impact fire. Impact damage was observed on the left wing. The tail section was found intact. The flight control cables were also found intact and still secured to their respective control surfaces. The landing gear was extended; all three wheels were recovered from the accident site.



**Figure 4:** Wreckage distribution.

1.12.2. The engine was found in the cradle and still secured. The propeller blades were found twisted and slightly bent. The propeller dislodged from the engine; it was found approximately 42m north-west of the wreckage.



**Figure 5:** The damaged propeller blades.

1.12.3. The left main wheel was located approximately 67m from the main wreckage.

### 1.13. **Medical and Pathological Information**

1.13.1. To be discussed in the final report.

### 1.14. **Fire**

1.14.1. The aircraft was consumed by post-impact fire.

### 1.15. **Survival Aspects**

1.15.1. The accident was not survivable as the cabin structure was damaged and consumed by the post-impact fire.

### 1.16. **Tests and Research**

1.16.1. The engine was recovered to an approved AMO for further investigation. The AMO conducted an engine teardown inspection on 12 June 2025. It was found that the fire caused damage to most of the external engine components, and there was no internal mechanical damage to the engine that could be attributed to its malfunction.

### 1.17. **Organisational and Management Information**

1.17.1. This was an international private flight conducted under the provisions of Part 91 of the CAR 2011 as amended.

1.17.2. The AMO that conducted the last MPI was issued an AMO Certificate by the Regulator on 20 May 2024 with an expiry date of 31 May 2025.

1.17.3. The aircraft was registered to the present owner on 12 December 2022.

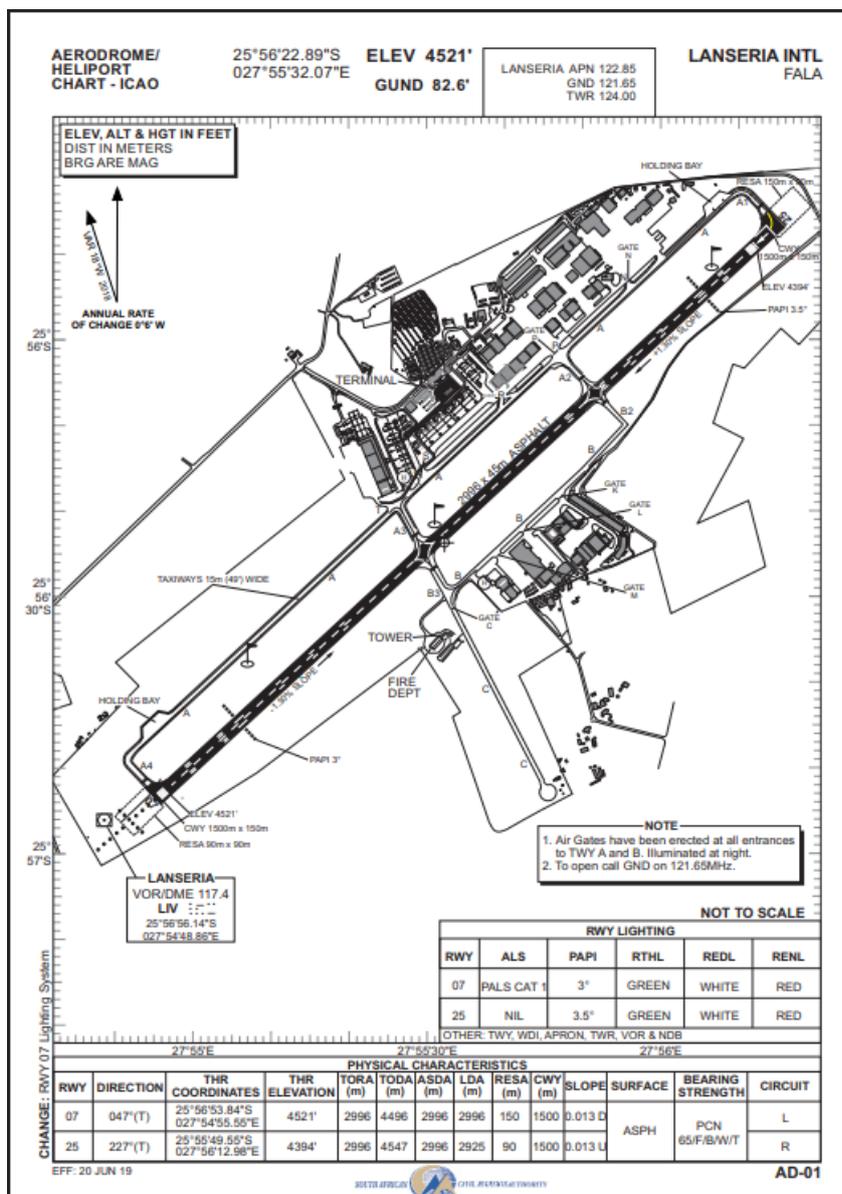
1.17.4. The aircraft's Certificate of Airworthiness (C of A) was issued on 10 October 2024 with an expiry date of 30 November 2025.

### 1.18. **Additional Information**

1.18.1. To be discussed in the final report.

# 1.19. Useful or Effective Investigation Techniques

## 1.19.1. FALA layout.



# 2. FINDINGS

## 2.1. General

From the available evidence, the following preliminary findings were made with respect to this accident. These shall not be read as apportioning blame or liability to any organisation or individual.

To serve the objective of this investigation, the following sections are included in the conclusions heading:

- **Findings** — are statements of all significant conditions, events, or circumstances in this accident. The findings are significant steps in this accident sequence, but they are not always causal or indicate deficiencies.

## 2.2. Findings

- 2.2.1. The pilot had a Commercial Pilot Licence (CPL) that was initially issued on 12 February 2024. The CPL was renewed on 5 December 2024 with an expiry date of 31 January 2026.
- 2.2.2. The aircraft type was endorsed on the pilot's licence.
- 2.2.3. The pilot had a Class 1 aviation medical certificate that was issued on 21 November 2024 with an expiry date of 30 November 2025 with no medical restrictions.
- 2.2.4. The aircraft underwent a 100-hour mandatory periodic inspection (MPI) on 8 May 2025 at 4334.5 hours after which a Certificate of Release to Service (CRS) was issued with an expiry date of 7 May 2026 or at 4434.5 hours, whichever comes first.
- 2.2.5. The aircraft maintenance organisation (AMO) that conducted the last MPI was issued an AMO Certificate on 20 May 2024 with an expiry date of 31 May 2025. The AMO was authorised to conduct maintenance on this aircraft type.
- 2.2.6. The engine was recovered to an AMO after the accident, and the engine teardown inspection was conducted. The inspection revealed no mechanical anomalies that could be attributed to the engine malfunction.

## 3. ON-GOING INVESTIGATION

- 3.1. The AIID investigation is on-going and the investigator will investigate other aspects of this occurrence which may or may not have safety implications.

## 4. APPENDICES

- 4.1 None.

## 5. SAFETY RECOMMENDATIONS

- 5.1 None.

**This report is issued by:**

**Accident and Incident Investigations Division  
South African Civil Aviation Authority  
Republic of South Africa**