REPUBLIC OF BOTSWANA

DIRECTORATE OF ACCIDENT INVESTIGATION

MINISTRY OF TRANSPORT AND INFRASTRUCTURE

AVIATION OCCURRENCE REPORT – H1 2025

1. INTRODUCTION

This publication shares the safety data on aviation occurrences that were reported to the Directorate of Accident Investigation (DAI) during the first half (H1) of year 2025.

DAI established through the *Civil Aviation Act No. 11 of 2011* ***(section 69(1))*** with the sole mandate to investigate accidents and incidents within aviation, receives notifications on aviation occurrences from the aviation community. The received information is evaluated and subsequently recorded in the national occurrence register.

Civil Aviation (Accident and Incident Investigation) Regulations of 2022, **regulation 11** stipulates that notification of aviation occurrences must be made to the Director of DAI at the earliest possible time after being discovered.

As an outcome of the evaluation of submitted notification, DAI would institute an investigation into the circumstances of an occurrence and DAI will assume full responsibility of the same investigation.

The purpose of the aviation occurrence investigation is to enhance safety in aviation but not apportion blame or liability. Information contained in the final report of the investigation cannot be used for disciplinary hearing.

It must be noted that investigations, following submission of notifications to DAI, may take varying forms as listed below.:

(1) **On-field investigation:** Occurrences that are deemed severe will lead to investigators being deployed to scene of occurrence.
(2) **Through correspondence only:** This is where the investigator engages through further communication until the finality of the investigation.
(3) **Record only:** This last category calls for an input into the national occurrence register to form part of a record of broader safety data.

SAFETY DATA is a crucial asset in the effective improvement of aviation safety. Establishment of safety data collection and processing systems (SDCPS) to capture, store, aggregate and enable the analysis of safety data and safety information to support safety performance management activities is an imperative.

It has been proven that accidents are often preceded by safety-related incidents and deficiencies. Therefore, collection and processing of safety data would lead to the detection of potential safety hazards before they metamorphosis into accidents.

Processing of safety data by the State aviation safety oversight system or a service provider, better equips the aviation entities (aircraft operators/regulator/accident investigator/approved service providers) as consumers of the processed data to become proactive in the enhancement of aviation safety.

Analysed safety data compliments lessons that are derived from occurrence (accident/incident) investigation reports. The lessons derived from the investigation reports are critical in the prevention of occurrence recurrences, albeit a reactive process.

The use of both proactive and reactive system bodes well for aviation industry. Reactive systems have been found to be of limited effect in the course of advancing improvements, since they are dependent on the outcome of investigation after an occurrence. Therefore, complementing reactive with a proactive system, will lead to a safety enhanced environment that is informed by safety data-driven decision making.

Accordingly, civil aviation occurrences should be reported, collected, stored, protected, exchanged, disseminated and analysed, and appropriate safety actions must be taken on the basis of the information collected.

NOTE: 'OCCURRENCE' means any safety-related event which endangers or which, if not corrected or addressed, could endanger an aircraft, its occupants or any other person and includes in particular an **accident** or **serious incident**.

2. OCCURRENCE INVESTIGATION PROCESS TIMELINE

An investigation of an occurrence will take a number of varying steps starting with initiation step and culminating with publication of a final report. Discussed below are steps DAI follows to investigate the causes and contributory factors of an occurrence.

STEP 1. NOTIFICATION

DAI is notified of an aviation occurrence. Notification is usually by telephone call or electronic media. Notifications are immediately acted upon; 24 hours a day 7 days a week.

STEP 2. ASSESSMENT

An Accident Investigator assesses the information received and if necessary, seeks further clarification. The assessment is intended to determine whether the notification warrants deployment of DAI investigators or it has to be an off-field investigation exercise.

STEP 3. EVIDENCE GATHERING

On arrival at the scene of an occurrence, Investigators commence the investigation by gathering evidence. Depending on the nature of the accident, the wreckage, in the case of an aircraft, will be retained by DAI. If the aircraft is relatively undamaged, it will be formally handed back to the owner or

operator. The time frame for evidence gathering is not prescribed and will lasts as long as it may be necessary.

STEP 4. INVESTIGATION

Upon return from the scene of occurrence, the collected evidence and initial findings are presented before a team of investigators. A decision is then made to determine the scope of the investigation. Required resources are provided and timelines are set where possible. The evidence is used to establish the cause and contributory factors of the accident. As the investigation unfolds, it might become necessary to continue collecting further evidence, such as additional witness interviews. The gathered evidence will need to be put to test, research and data analysis. It is at this stage that forensic examination of the aircraft and its components is carried out. This work often takes several weeks if not months to complete. For all investigated occurrences, DAI will publish a Preliminary Report within 30 days of the occurrence containing established factual information and indicating the progress of the investigation.

DAI strives to publish a final report within a year of the event, if that is not possible an anniversary statement is published. In the event that it is found necessary to issue a safety information promptly, DAI will issue a safety recommendation, at any stage of the investigation of an occurrence in a dated transmittal correspondence to the appropriate authorities, including those in other States where relevant, detailing any preventive action that is considered necessary to be taken promptly to enhance aviation safety.

STEP 5. CONSULTATION PERIOD

A confidential draft final report is prepared and provided to the stakeholders (States and authorities) that have been involved in

the investigation and to anyone whose reputation is likely to be affected. The consultation is carried out under the relevant regulations with a response expected from the entities who have been served with notice. The response must contain substantive representations. The response is expected within 60 days after being served, which can be extended on request.

STEP 6. RESPONSE REVIEW

After receiving the responses from the consulted stakeholders, the responses are given consideration to determine whether to amend the draft final report or annex the response to the final report. It is at this stage that new evidence might surface leading to further investigation by the investigation team.

STEP 7. PRE – PUBLICATION OF THE FINAL REPORT

The draft final report is submitted by the IIC to the Minister responsible for Transport prior to publication, after which it is passed to the publication team for final publishing.

3. RECORDED OCCURRENCES BY DAI ON THE FIRST HALF OF YEAR 2025

Since the beginning of the 1st January 2025 until 30th June 2025, DAI has received notifications of occurrence amounting to six-teen (**16) in number**.

As a contracting State, Botswana subscribes to the international initiative to continually reduce fatalities, and the risk of fatalities, through the development and implementation of a national aviation safety strategy (NASP) that is informed by the ICAO Global Aviation Safety Plan (GASP).

The NASP lists five (5) global high-risk categories of occurrences (HRCs) derived from the GASP, that must be given utmost priority because of the possible high number of fatalities and risk of fatalities associated with such events.

The HRCs were identified based on analyses from mandatory and voluntary reporting systems, accident and incident investigation reports, safety oversight activities over the past five (5) years, as well as on the basis of regional analysis conducted by the AFI - RASG and on the operational safety risks described in the GASP. The five (5) HRCs are as below.:

a) Control Flight into Terrain (CFIT)
b) Loss of Control in Flight (LOC-I)
c) Mid-air collision (MAC)
d) Runway excursion (RE)
e) Runway incursion (RI)

In addition to the national operational safety risks listed above, an additional category of operational safety risk relevant to Botswana has been identified:

f) Wildlife and Bird-strikes

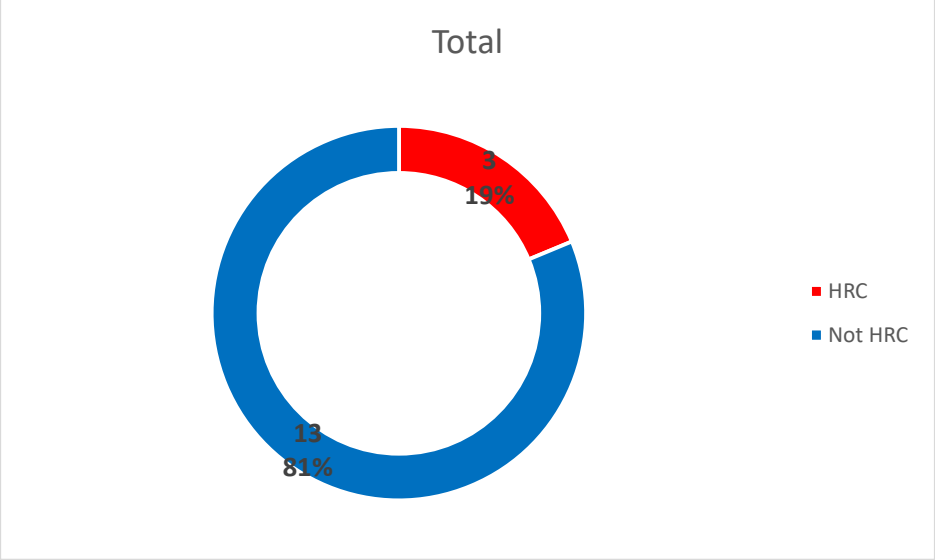

Figure 1: Showing the percentage of reported HRCs out of the 16 notifications

During the first half of the year 2025, HRCs amounted to **19%** (3/16) of the reported safety occurrences (**see Figure 1**). This percentage is a cause for

concern despite the fact that it appears small. The received notification reports comprise of 3 HRCs:

1 Runway Incursion (RI) occurrence reported at FBSK.

2 Runway Excursion (RE) occurrence reported at Mombo airstrip and Xakanaka airstrip respectively.

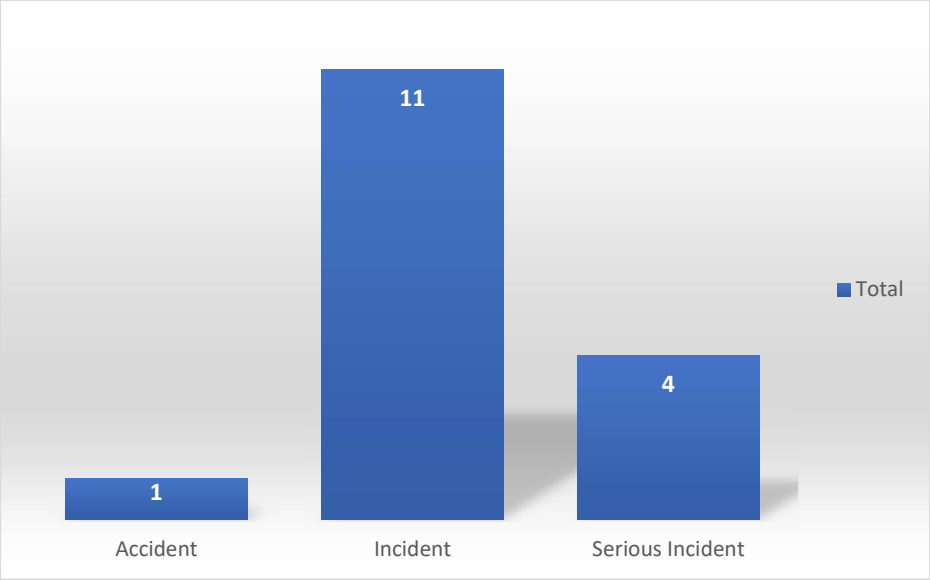

Figure 2: Class of reported occurrences during H1 2025

The reported occurrences were grouped into class of occurrence. **Figure 2** above indicates that **25%** (4/16) of the reported occurrences were serious incidents. This is a relatively high number and a cause for concern.

Only two (2) **on - field investigations** were conducted involving the below listed occurrences:

(a) Runway Excursion (RI) accident at Xakanaka airstrip, and
(b) Smoke in the cockpit serious incident at Maun Airport.

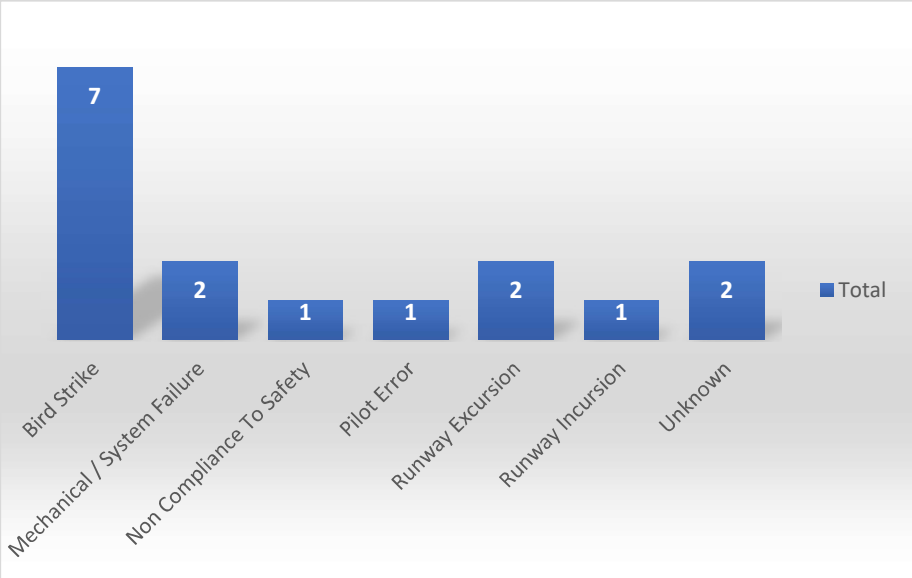

Figure 3: Category of occurrences under appropriate taxonomy

Occurrence notifications received were further categorized using appropriate taxonomy as shown on the **Figure 3** above. Bird strikes are leading in the category of occurrences reported as they constitute **44%** (7/16) of the incidents.

Majority of bird strikes occurred at and around Maun and Gaborone. Two (2) reports did not specify the location of occurrences as they were discovered after landing.

The two incidents with unknown occurrence location involve a situation where minor dents were discovered on the aircraft during post-flight inspection leading to a conclusion that they happened enroute whilst the aircraft was airborne.

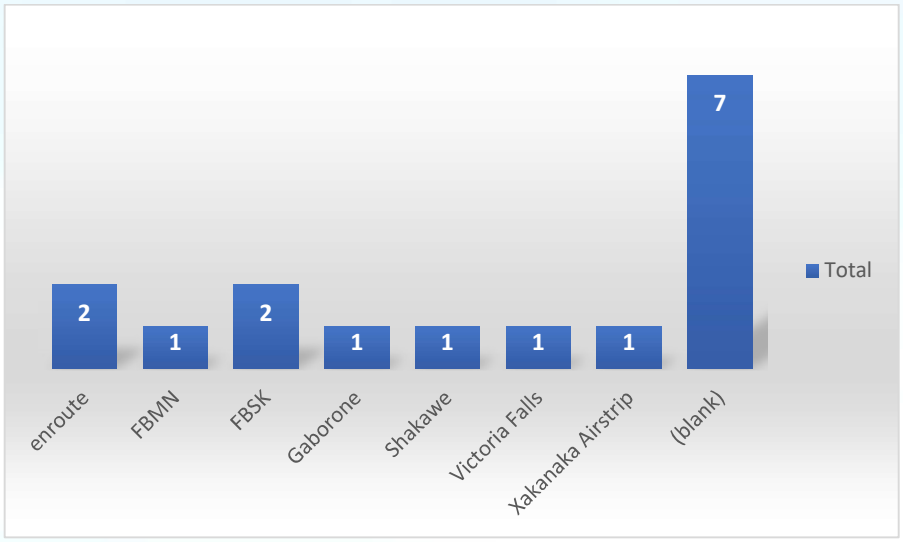

Figure 4: Occurrences by Location

The **Figure 4** above is an analysis of occurrences by location. Note that (7/16) **44%** of the reported occurrences did not indicate location of incident. These maybe due to incidents that take place while the aircraft is airborne. This happens mostly with flights around the delta.

CONCLUSION

7 BIRD STRIKES REPORTED

9 OCCURRENCES

(1 ACCIDENT, 4 SERIOUS INCIDENTS, 4 INCIDENTS)

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GABORONE

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