



Safety Report 2024



Gautam Buddha International Airport Civil Aviation Office

Siddharthanagar - 04, Rupandehi



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February 2025



SAFETY REPORT 2024

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Gautam Buddha International Airport Civil Aviation Office

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Note

This report contains safety data on the basis of records collected by ATS Safety Office and Aerodrome Safety Office of GBIACAO. Any comments and suggestions regarding the report are highly appreciated and should be directed to: ATS Safety Office and/or Aerodrome Safety Office, GBIACAO.

ATS Safety Office: gbia.atssafety@caanepal.gov.np

Aerodrome Safety Office: gbiaaerodromesafety@caanepal.gov.np

FOREWORD

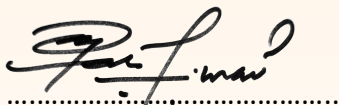
It is with immense satisfaction that GBIA CAO presents the first edition of the GBIA Safety Report 2024 to showcase safety-related information and disseminate it to relevant stakeholders to promote a robust safety culture in the airport's daily operations. This report highlights key safety initiatives such as hazard identification, risk analysis, risk mitigation strategies, and overall progress in Aerodrome and ATS safety management. Besides this, it also covers the operational information of the airport, which can serve as a valuable resource for all stakeholders to access our data and promote the safety culture at GBIA.

GBIA, under the umbrella of the Civil Aviation Authority of Nepal (CAAN), aims to develop, implement, maintain, and continuously improve strategies and processes that ensure safe, regular, and efficient flight operations in aerodrome and air navigation operations. We remain dedicated to achieving the highest level of safety performance, meeting both CAAN and international aviation standards.

Since its inauguration on May 16, 2022, GBIA has been continuously engaged in ensuring a safe operating environment in aerodromes and air navigation operations. Recent progress in international flight operations from world-renowned airlines is a testament to our commitment to safety management.

I extend my heartfelt gratitude and congratulations to the Aerodrome and ATS Safety Offices and the entire team for their dedication and effort in compiling and publishing this report.

I am confident that this safety report will play a pivotal role in nurturing a strong safety culture at GBIA, which will undoubtedly contribute to the advancement of aviation safety in Nepal.



Pratap Babu Tiwari

General Manager

Gautam Buddha International Airport

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EXECUTIVE SUMMARY

Gautam Buddha International Airport (GBIA) is the second international airport strategically located at Bhairahawa, Siddharthanagar-04, Rupandehi nearby Lumbini, the birthplace of Gautam Buddha. It lies in the flat Terai region of Nepal at an altitude of 105.6 meters above the mean sea level. It has 3000 m long runway with dedicated international and domestic aprons and associated terminal buildings. GBIA is connected with five foreign destinations and two domestic cities via five international airlines and three domestic airlines. In 2024, there was a total of 12,241 air traffic movements with 724,883 passenger movements at GBIA.

This report is prepared from the hazards and occurrence reporting data obtained from various sources to GBIACAO. GBIACAO has reported 3595 and 57 numbers of hazards and occurrences respectively in 2024. Based on this reporting, GBIACAO has identified significant safety risks of high concern, which can be used for future safety enhancement programs at GBIA. After analysis of the safety reporting, GBIACAO has set safety performance indicators (SPI) and safety performance targets (SPT) for the year 2025. There are 12 number of lagging SPIs and 5 leading SPIs with respective SPTs for the year 2025.

GBIACAO has been focusing on promoting safety culture through voluntary and involuntary safety reporting, safety awareness, hazard identification, risk management and mitigation, safety activities (FOD removal campaign, emergency exercises, wildlife/bird management activities etc.) as well infrastructure development and upgradation, safety promotion via human resource development, and safety assurance through continuous monitoring. GBIACAO has ATS and Aerodrome Safety Offices in order to co-ordinate and facilitate activities related to safety. These safety offices has been conducting safety meetings with concerned stakeholders within the airport for co-ordination.

ABBREVIATIONS

AGL	Aeronautical Ground Lighting
AIP	Aeronautical Information Publication
AOSC	Apron Operation Safety Committee
ATC	Air Traffic Controller
ATS	Air Traffic Services
CAAN	Civil Aviation Authority of Nepal
CAST	Commercial Aviation Safety Team
CNS	Communication and Navigation Services
DVOR/DME	Doppler VHF Omnidirectional Range/Distance Measuring Equipment
FM	Flight Movements
FOD	Foreign Object Debris
GBIA	Gautam Buddha International Airport
GBIACAO	Gautam Buddha International Airport Civil Aviation Office
GP	Glide Path
ICAO	International Civil Aviation Organization
ILS	Instrument Landing System
NASP	National Aviation Safety Plan
PAPI	Precision Approach Path Indicator
PCN	Pavement Classification Number
QRF	Quick Return Flight
RE	Runway Excursion
RI	Runway Incursion
RST	Runway Safety Team
RWY	Runway
SAG	Safety Action Group
SALS	Simple Approach Lighting System
SMS	Safety Management System
SPI	Safety Performance Indicators
SPT	Safety Performance Targets
SRB	Safety Review Board
SSP	State Safety Program
SSR	Significant Safety Risk
TXY	Taxiway
UTC	Coordinated Universal Time
VHF/UHF	Very High Frequency/Ultra High Frequency
VIP/CIP	Very Important Person/Commercially Important Person
WHCCIU	Wildlife Hazard Control and Coordination Unit

CHAPTER 1 INTRODUCTION

Gautam Buddha International Airport (GBIA) is located at Siddharthanagar - 04, Rupandehi District, Lumbini Province. It is about 15 kilometer east from Lumbini, the birthplace of Gautam Buddha, and approximately 190 kilometer aerially from Kathmandu. It was inaugurated on 16th May 2022 as the second international airport of Nepal.

Some features of GBIA aerodrome:

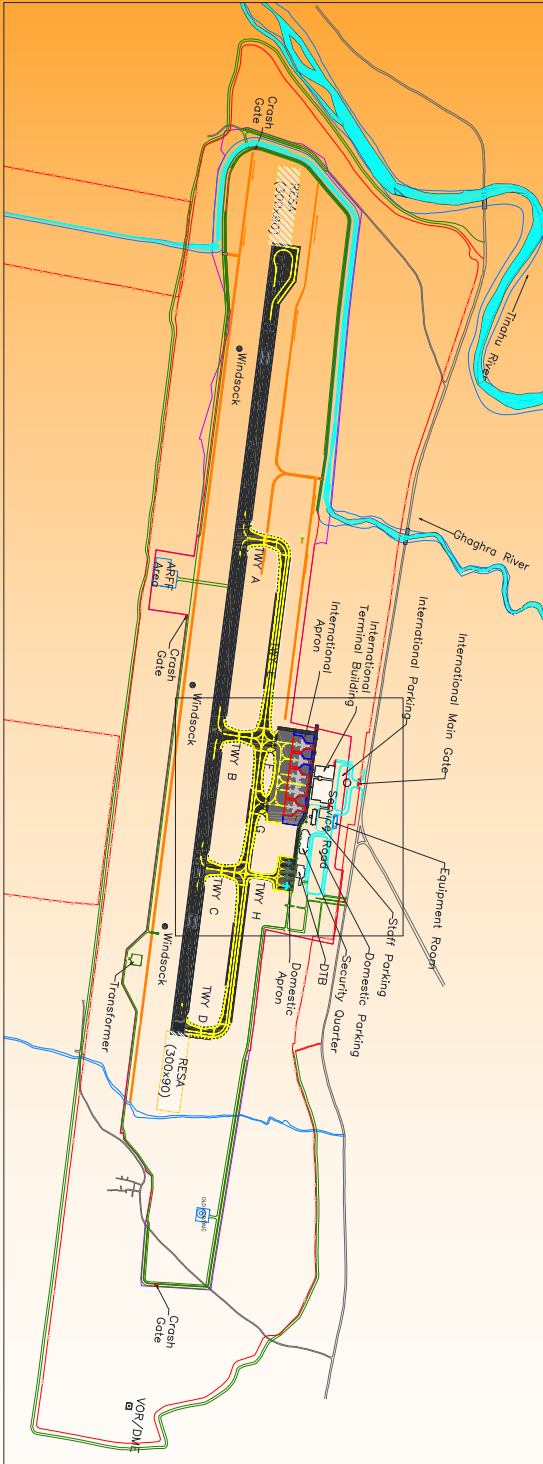
- Elevation: 105.6 m (346.5 ft)
- Reference temperature: 37.3°C (May)
- Runway designation: 10 - 28
- Runway dimension: 3000 × 45 m
- Runway strength (PCN) and type: 80/F/A/W/T, asphalt concrete
- Runway 28 lighting: APCH CAT I 900 m, PAPI 3.00°, touchdown zone, RWY centerline, RWY edge, RWY end
- Runway 10 lighting: APCH SALS 300 m, PAPI 3.00°, RWY centerline, RWY edge, RWY end
- Taxiway: Asphalt concrete
- Apron: Cement concrete, separate international and domestic apron
- ATS communication: VHF and UHF
- Radio navigation and landing aids: DVOR/DME, ILS CAT I RWY 28, GP/DME
- Aerodrome category for firefighting: Category 9

Facilities available at GBIA:

- Fuel: Jet A-1, Storage: 406 kL, Mobile: 66 kL
- Operational facilities: cargo and ground handling, security, customs and immigration, health and sanitation, MET briefing
- Passenger facilities: Taxi and city bus, vehicle parking facility, medical facilities at the airport, hospital in the city, ambulances at the airport, hotels and restaurants, bank at the airport, post office in the city
- Terminal facilities: VIP lounge, CIP lounge, cafe, baggage handling, breastfeeding room, prayer room, and others with total passenger handling capacity of 450 passengers per hour.

Please refer AIP of GBIA (VNBW) for more information [here](#).





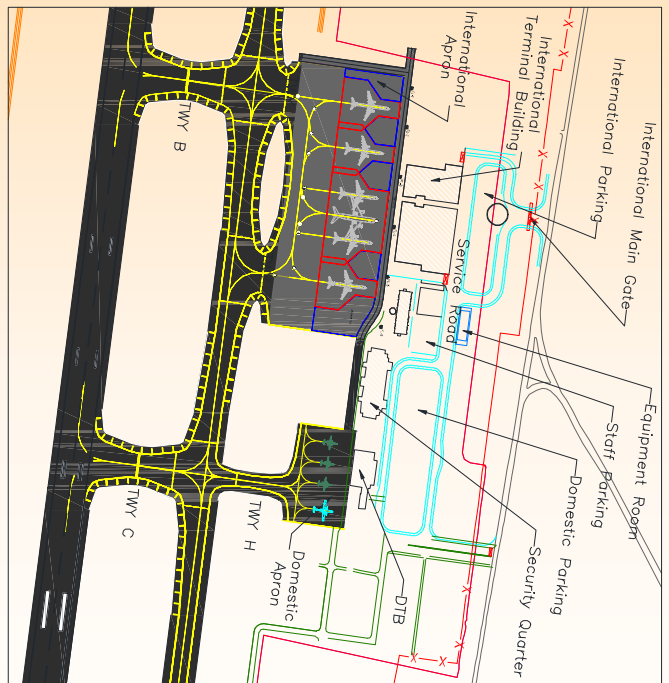
GBIA aerodrome includes a runway, taxiway, and safety areas. GBIA has total land area of approximately 200 hectors.

GBIA has 3000 m long runway designated as 10 - 28 with strip dimension 3120m × 280m and RESA dimension of 240m × 90m for both RWY.

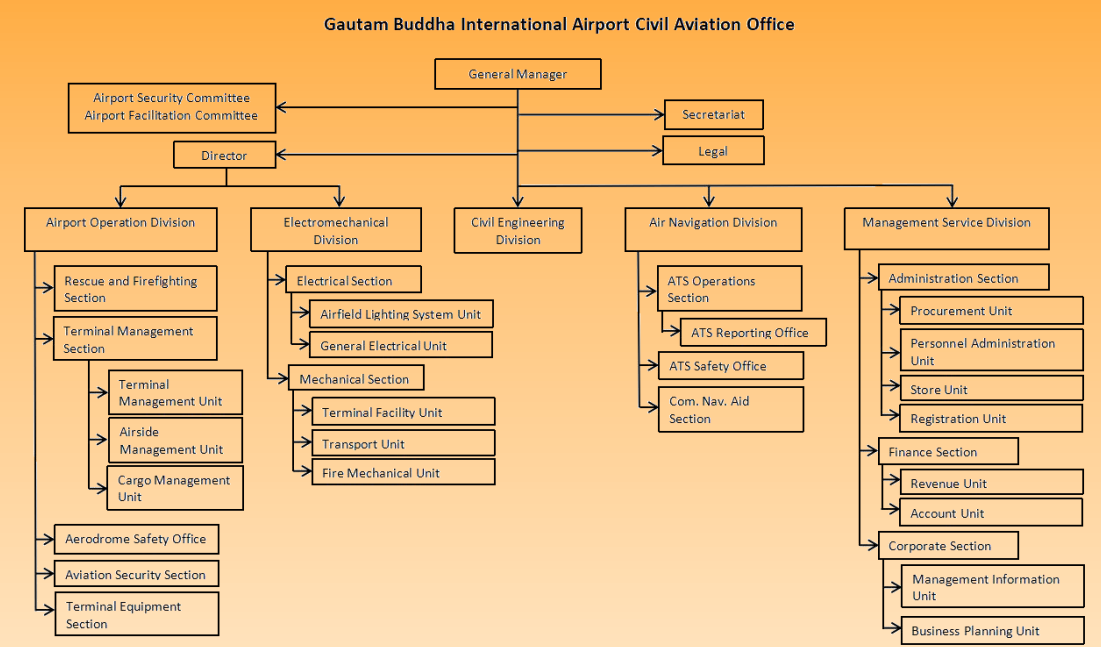
Runway is connected with separate international and domestic aprons via taxiways (TWY A-D, parallel TWY E, TWY F-H).

International apron has 5 aircraft parking bays for narrow body aircraft or 3 bays for narrow body with 1 bay for wide body aircraft.

The landscape of GBIA aerodrome is shown here with detailed view of the apron and terminal facilities.



Organizational Chart of GBIACAO



Domestic Apron Operation

CHAPTER 2 AIRLINES IN OPERATIONS

GBIA is connected to six cities by scheduled international airlines in 2024: Kathmandu, Dubai, Kuwait City, Bangkok, Kuala Lumpur, and Doha.

In addition, GBIA is connected to two domestic cities by scheduled domestic airlines in 2024: Kathmandu and Pokhara.

Here is the list of both international and domestic airline company operating in GBIA.

International Airlines (5)	Domestic Airlines (3)
Fly Dubai Jazeera Airways Nepal Airlines Corporation Qatar Airways Thai AirAsia	Buddha Air Shree Airlines Yeti Airlines

Chartered international, domestic, and helicopter flights were also recorded at GBIA. Details of air traffic movement is provided in Chapter 2.

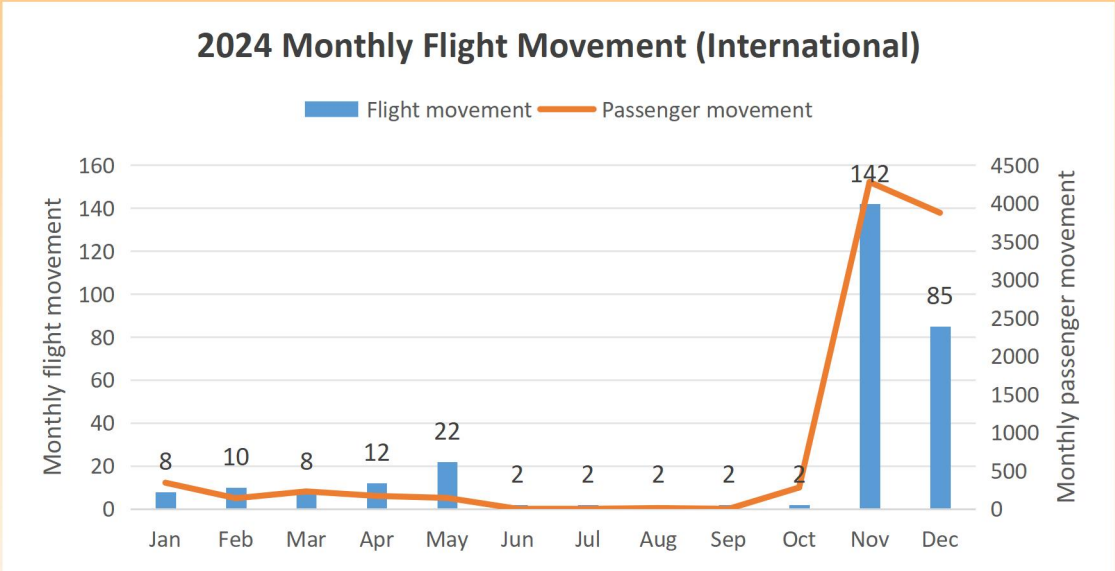


Inaugural Flight of Thai AirAsia (3 Nov 2024)

CHAPTER 3 AIR TRAFFIC MOVEMENT

International Movement

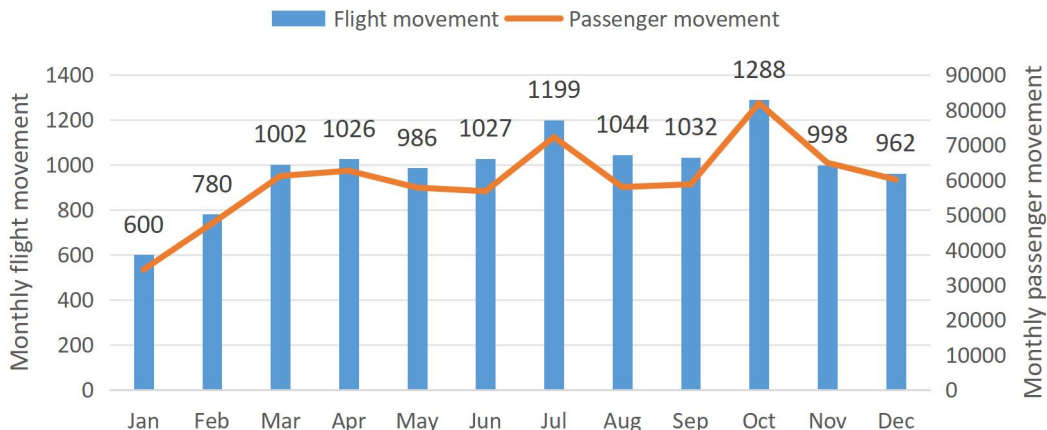
In 2024, there was a total of 297 international air traffic movements and 9466 passenger movement out of which 59 were international charter flights with 1148 passengers onboard. International flights in the first ten months of 2024 was low and only due to some charter and few scheduled flights at GBIA. In the last two months, there is surge of flight and passenger movement due to resuming of international scheduled flights depicting the highest air traffic movement of 142 and passenger movement of 4279 in November.



Domestic Movement

In this category, there was a total 11,944 domestic air traffic movement and 715,417 passenger movement including domestic charter flights and domestic helicopter movements at GBIA which is illustrated in the bar diagram below. The bar diagram indicates an increased air traffic movements during festive season and low movements during winter season.

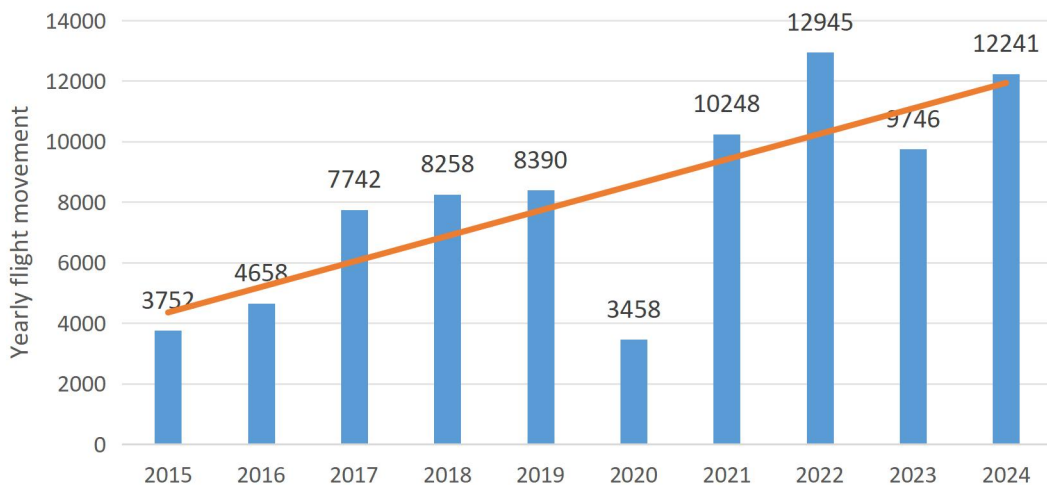
2024 Monthly Flight Movement (Domestic)

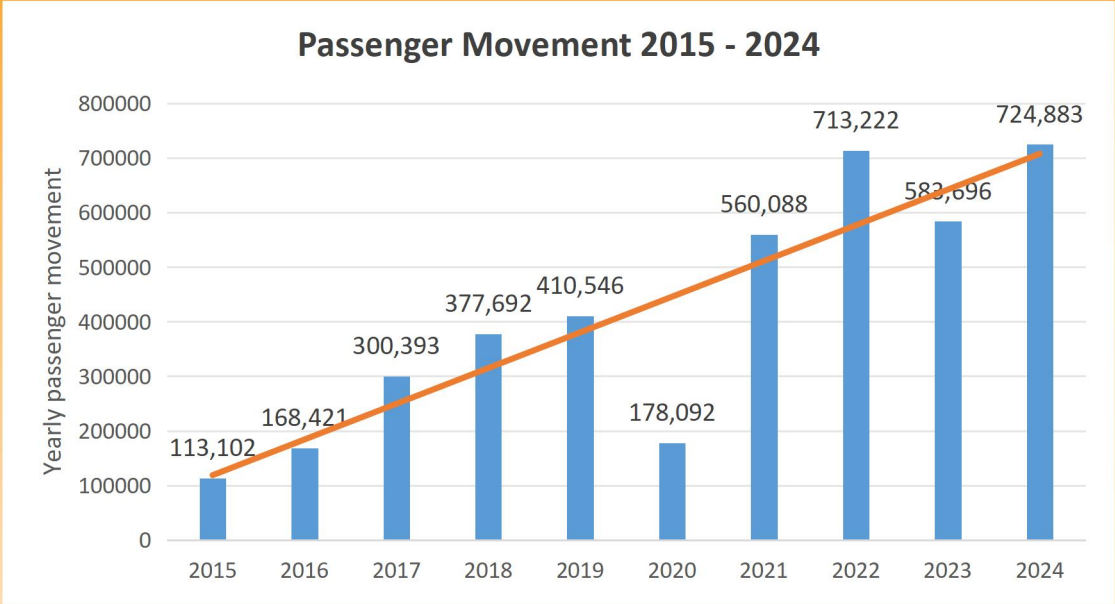


Last Ten Years Trend

GBIA was inaugurated as an international airport on 16th May 2022 adding international air traffic movement to the existing domestic air traffic. In the last ten years, there is a gradual increase in the trend of both flight and passenger movements except a short dip in air traffic movement at around 2020 due to COVID-19 pandemic and restrictions thereof. There is 3.3 folds increase in flight movement and 6.4 times increase in passenger movement in the last decade.

Flight Movement 2015 - 2024





International Airlines Operation at GBIA

CHAPTER 4 AIRCRAFT INCIDENT/ACCIDENT

At GBIA followings incidents/accidents has occurred in 2024:

SN	Date	Type	Aircraft	Description
1	11 July 2024	Incident	9N-AOC (ATR 72-212A, MSN 955, Buddha Air)	A Buddha Air ATR 72-212A (Regd. No. 9N-AOC) aircraft coming from Kathmandu to Bhairahawa incurred Runway Excursion Incident (South of runway near intersection D). All passengers (56) and crew members (4) were evacuated safely and no one was injured. No fire and fuel leakage was detected. The aircraft sustained damage due to the incident.



GBIA Firefighter Personnel on Duty

CHAPTER 5 SAFETY STATEMENT AND SAFETY POLICIES

Safety is the first priority in all our activities associated with the operations of Gautam Buddha International Airport (GBIA). We are committed to developing, implementing, maintaining and constantly improving strategies and processes to ensure that all our aviation activities take place under a balanced allocation of organizational resources, aimed at achieving the highest level of safety performance and meeting national and international standards, while delivering our services.

Safety Policies:

1. We develop and promote a positive safety culture to recognize the importance and value of effective Safety Management System.
2. We acknowledge at all times safety of our users is an integral part of our business.
3. We all are accountable and responsible for delivery of the highest level of safety performance.
4. We encourage all staff to report any incident and safety concern without the fear of any disciplinary action except when there is gross negligence or a deliberate or willful disregard to our standards and requirements.
5. We provide sufficient resources for implementation of our safety policy and objectives.
6. We provide adequate and appropriate safety training to all staff to make them competent for delivery of highest level of safety performance.
7. We comply with all legislative and regulatory requirements and standards.
8. We ensure externally supplied systems and services meet appropriate safety standards.
9. We ensure the continuous improvement of level of safety performance through audit, survey, record, and review our safety performance against the objectives and/or targets.
10. We ensure that appropriate safety information is provided to all staff and make them aware of all risks and relevant safety control measures.

CHAPTER 6 SIGNIFICANT SAFETY RISKS

Considering the hazards, occurrences and incident reported, GBIACAO has identified top five Significant Safety Risks for 2025 based on the data analysis of 2024, historical records, future risk assessment, and SSR included in NASP 2023 - 2025. The occurrence categories are not in line with the occurrence category defined in CAST/ICAO Common Taxonomy Team document, 2021.

- Bird (BIRD)
- Runway incursion/runway excursion (RI/RE)
- Wildlife (WILD)
- FOD on movement area (ADRM)
- Weather related

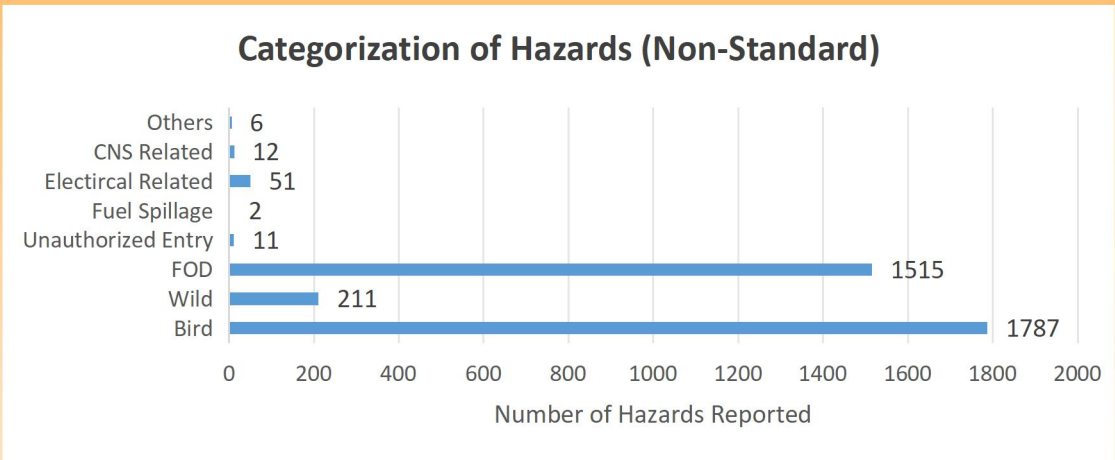


Airside Vehicle with Bird Scaring Device at GBIA Aerodrome

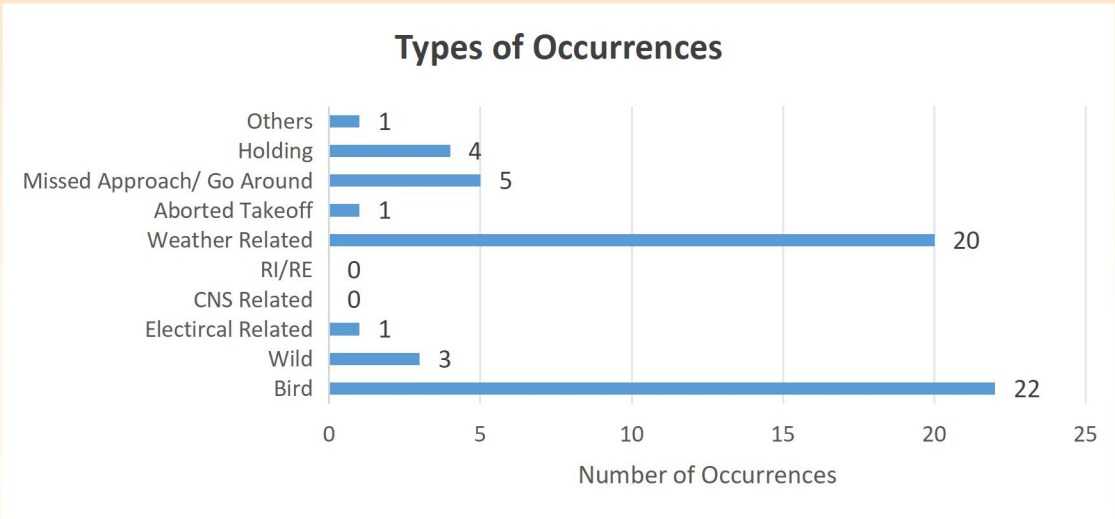
CHAPTER 7 SAFETY REPORTING AND ANALYSIS

Categorization of Hazards and Occurrences

On the basis of hazards reported from various sources, eight categories of hazards are recognized at GBIA. There were a total number of 3595 hazards reported at GBIA in 2024.



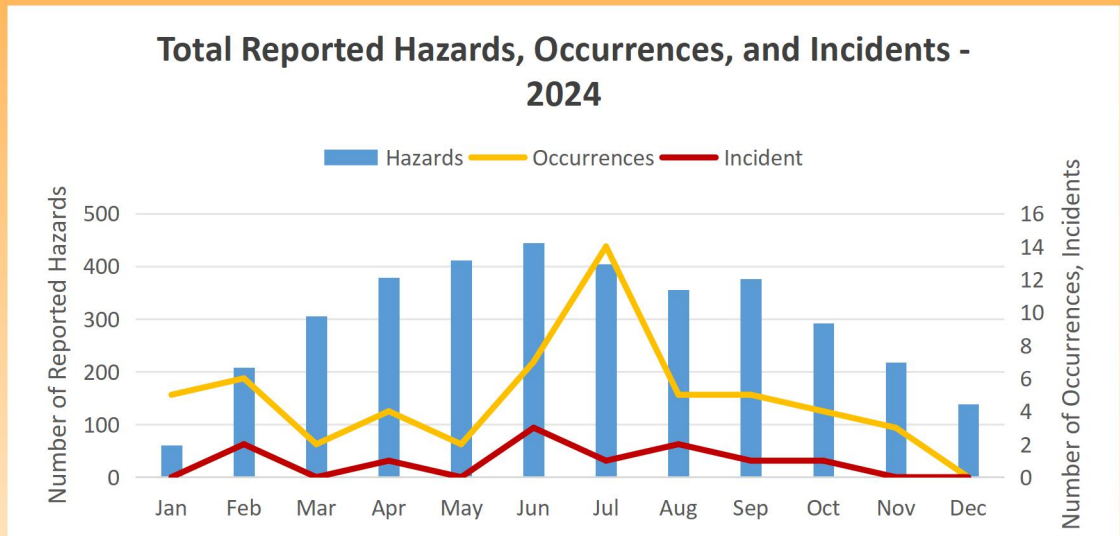
On the basis of happenings, following occurrences are identified at GBIA. There were a total number of 57 occurrences happened at GBIA in 2024.



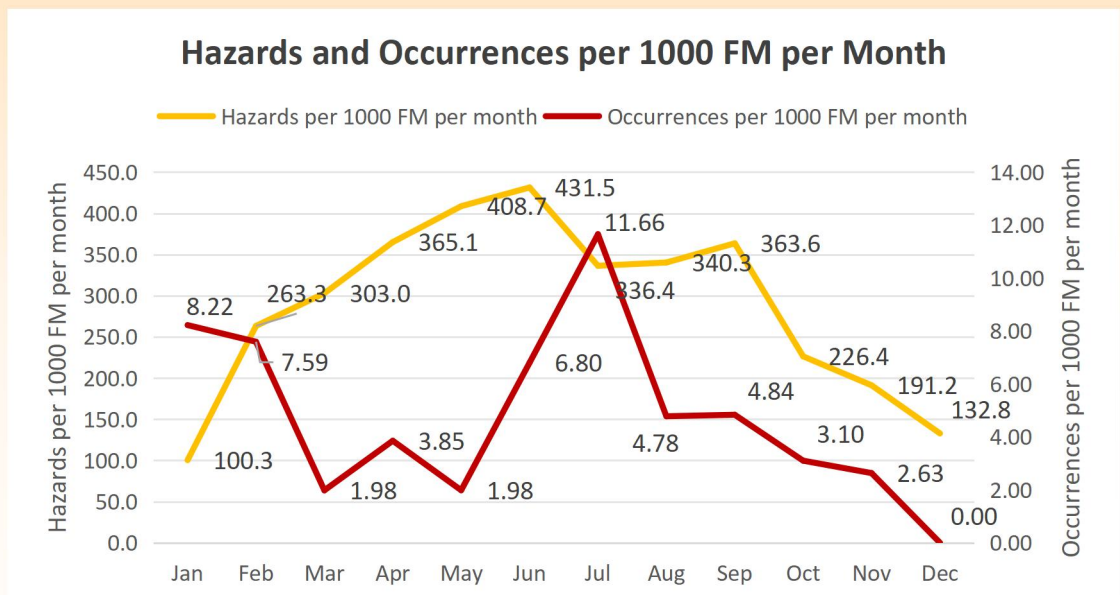
On the basis of reported hazards and occurrences, 12 number of lagging SPIs and corresponding SPTs are noted by GBIA CAO.

Number of Reported Hazards, Occurrences, and Incidents

There were 3595 hazards, 57 occurrences, and 11 incidents reported during 2024. June was the month with maximum number of hazards and incident reported whereas July was the month with maximum occurrences.

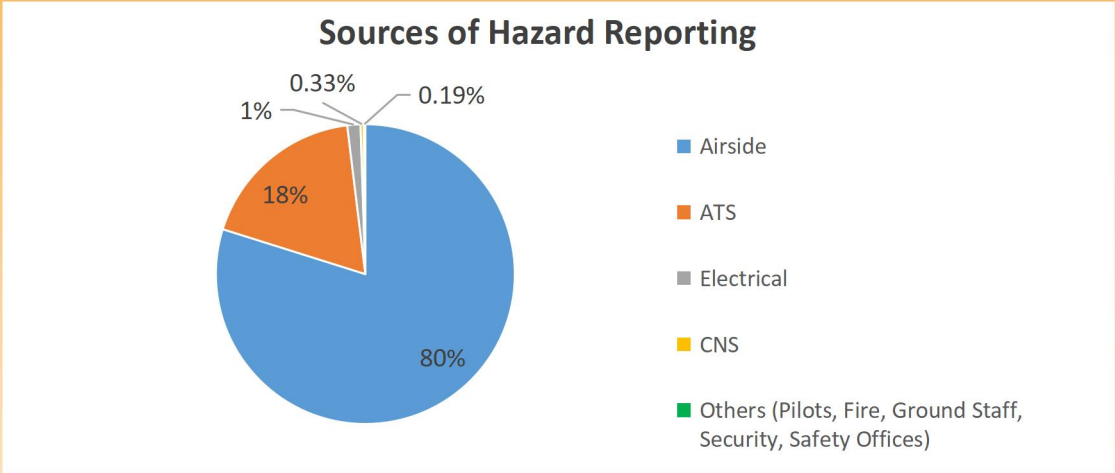


In average there were 294 hazards per 1000 FM per month and 4.66 occurrences per 1000 FM per month in 2024 at GBIA. The highest rate of hazards reporting and occurrences happened in the month of June and July respectively.



Sources of Hazards and Occurrences Reportings

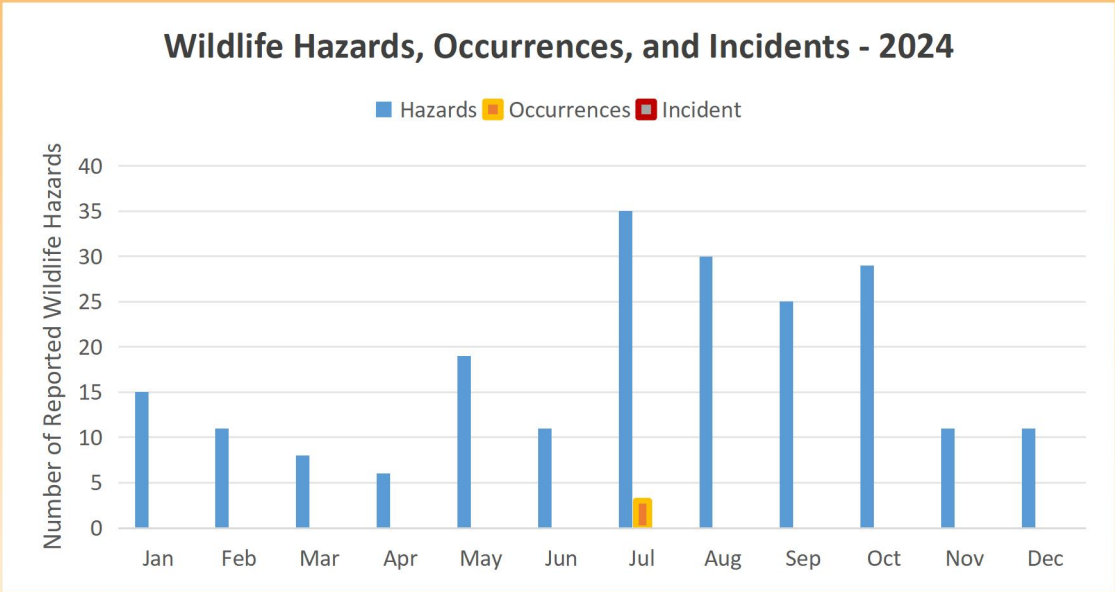
Most of the hazards and occurrences at GBIA are found to be reported by Airside and ATCs on duty. Few other sources of hazards reporting were Electrical and CNS Section, Pilots, Fire Staffs, Security Staffs, and Safety Offices. It is observed that, participation on hazard identification and reporting should be diversified further.



Aircraft on Movement Area of GBIA Aerodrome

Wildlife Hazards, Occurrences, and Incidents (WILD)

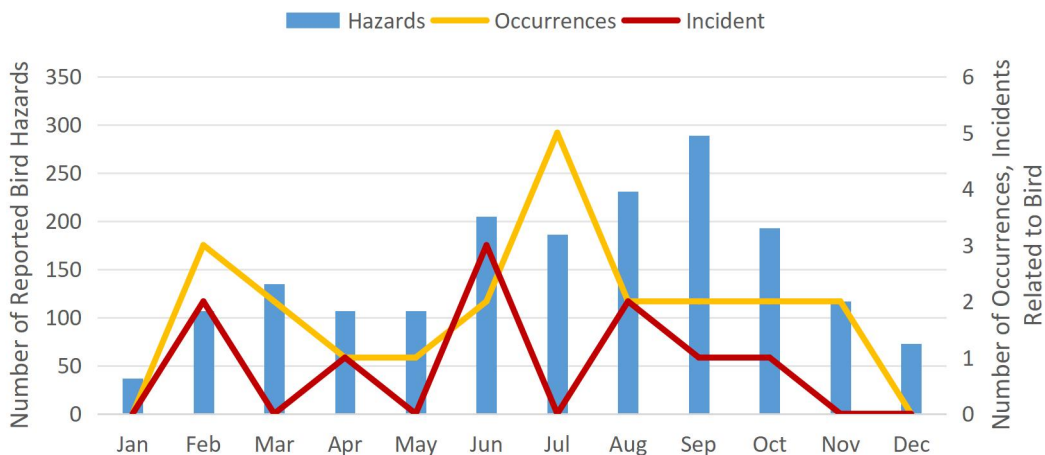
Wildlife data recorded and reported to the Safety Offices indicates that, there were 211 number of hazards and 3 occurrences related to wildlife activities. July to October were the months with highest number of wildlife activities. It is also noted that, though there were a lot of wildlife detection, there is a low number of occurrences and no incident related to wildlife. At GBIA, wildlife like jackal, rabbit, snake, boar, fox, nil gai were primarily detected.



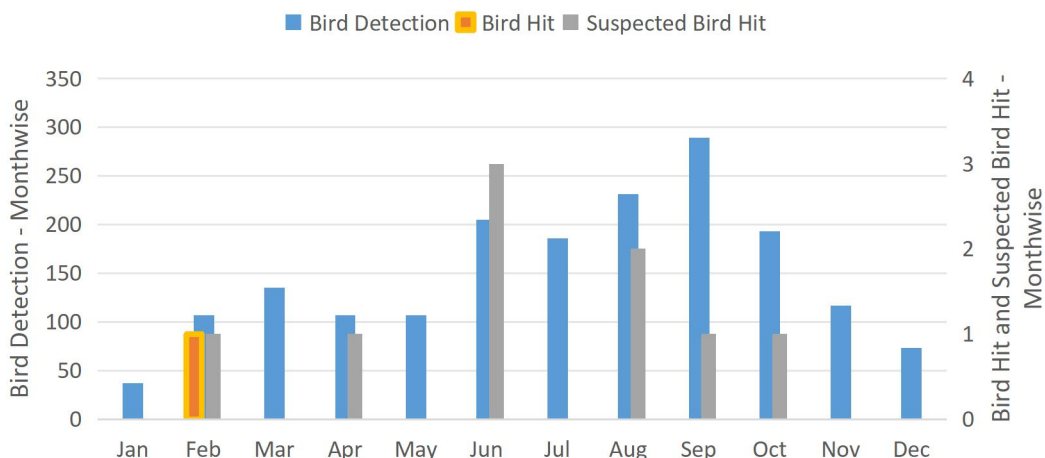
Bird Hazards, Occurrences, and Incidents (BIRD)

Bird data recorded and reported to the Safety Offices indicates that, there were 1787 number of hazards and 22 occurrences related to bird activities and 10 incidents related to bird hit/suspected bird hit. June to October were the months with highest number of bird detection, whereas July and June are the months with maximum number of occurrences and incidents related to bird activities respectively. At GBIA, birds like crane, black kite, red-wattled lapwing, eagle, red-napped ibis, water duck, crow, jungle babbler were primarily detected.

Bird Hazards, Occurrences, and Incidents - 2024



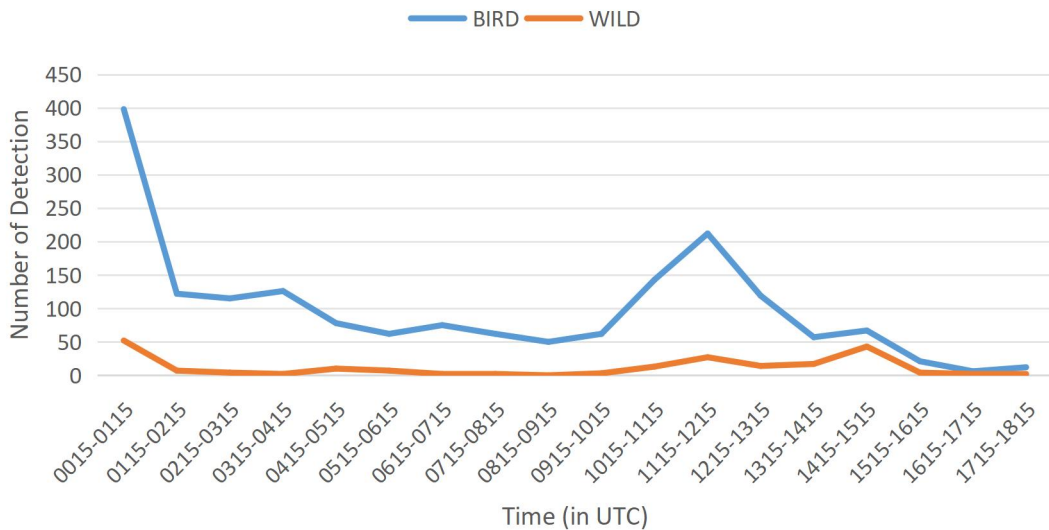
Total Bird Detection, Bird Hit and Suspected Bird Hit - 2024



Time Distribution Bird and Wildlife Movement (BIRD, WILD)

Birds and wildlife movement at GBIA shows distinctive pattern as shown in graph below. There is an increased number of bird and wildlife activities at the morning which decreases as the day past. The activities again increase peaking during early evening for the birds and late evening for the wildlife.

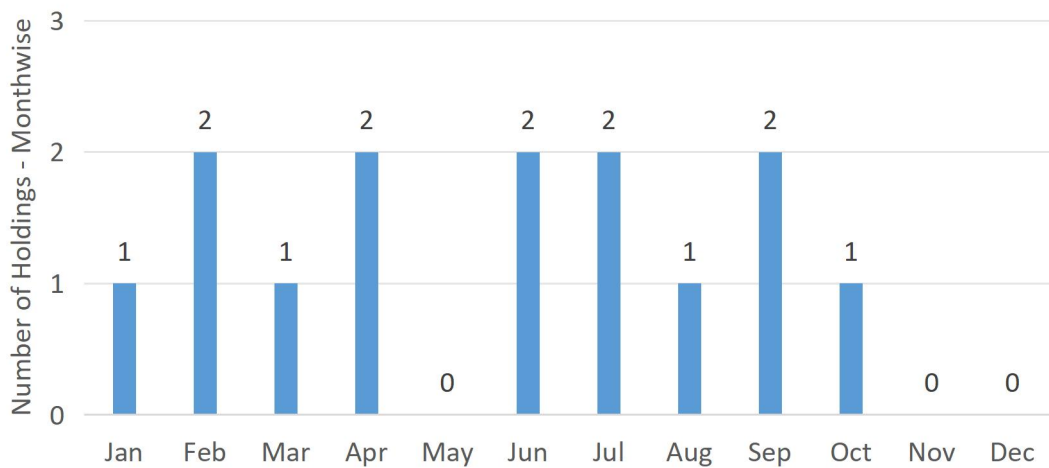
Time Distribution - Bird and Wildlife Movement



Holdings Occurrences

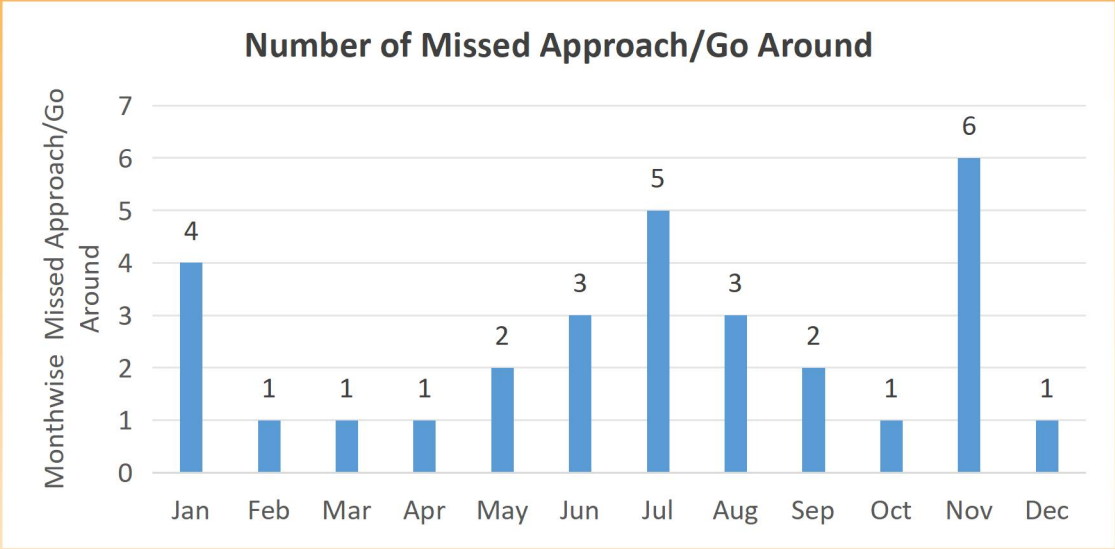
There were total 14 holding recorded in 2024 at GBIA. The major reasons for holding were due to bird, weather, aircraft and wildlife.

Number of Holdings



Missed Approach/Go Around Occurrences

There were 30 number of missed approach/go around reported in 2024. The major reasons for missed approach/go around were due to bird, weather, aircraft operation and wildlife.



Firefighters on Training at GBIA

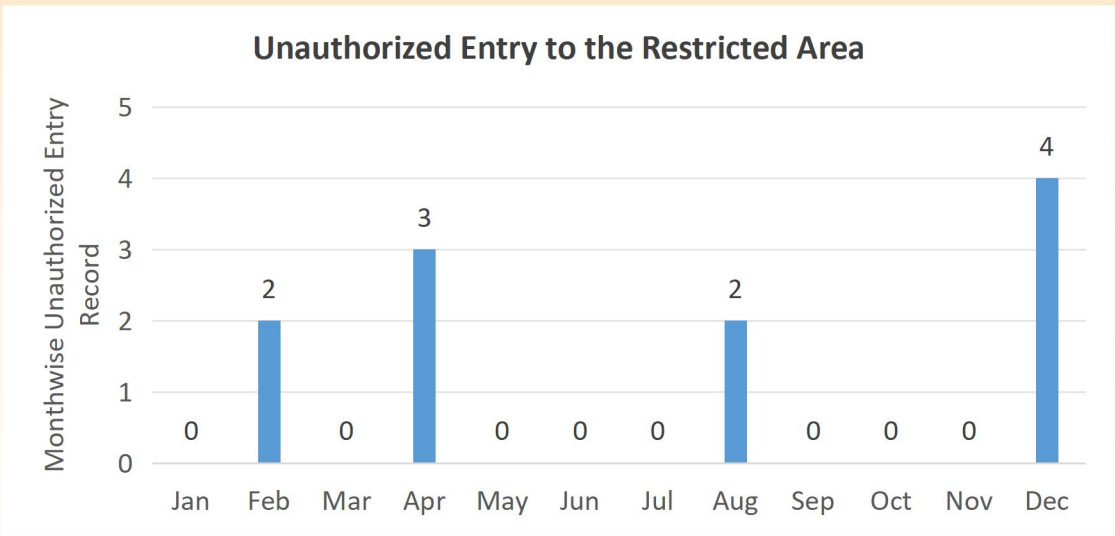
Number of Aborted Take-off Occurrences

There were total 3 number of aborted take-off occurrences recorded in 2024 at GBIA. The major reasons for aborted take-off were due to bird, aircraft and wildlife.



Unauthorized Entry

Unauthorized entry to the airside area without permission, which may threaten the safety at aerodrome, has been recognized and recorded at GBIA. There were total 11 number of unauthorized entry to airside area recorded in 2024 at different locations within GBIA airside.

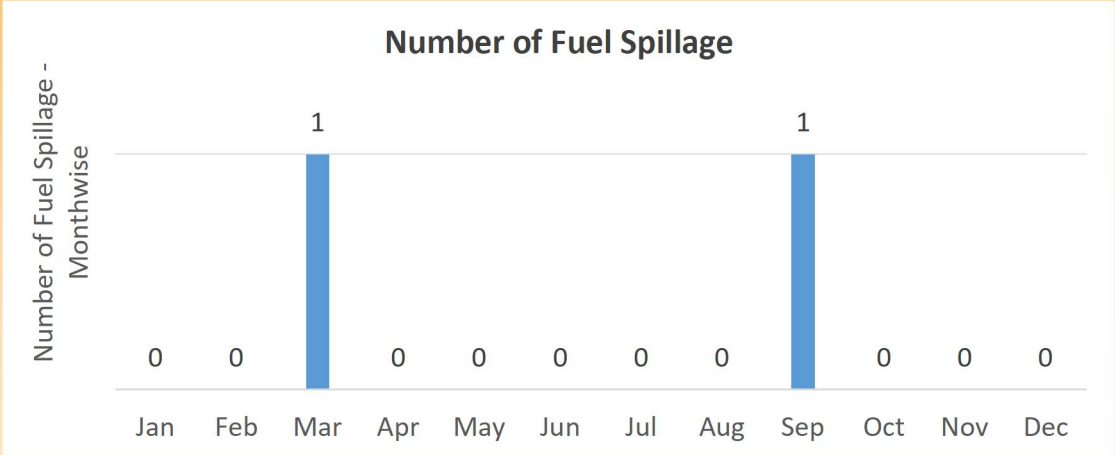


Runway Incursion/Runway Excursion (RI/RE)

There was no runway incursion at GBIA in 2024. A runway excursion happened at GBIA on 11 July 2024 during landing roll at south of runway near taxiway D.

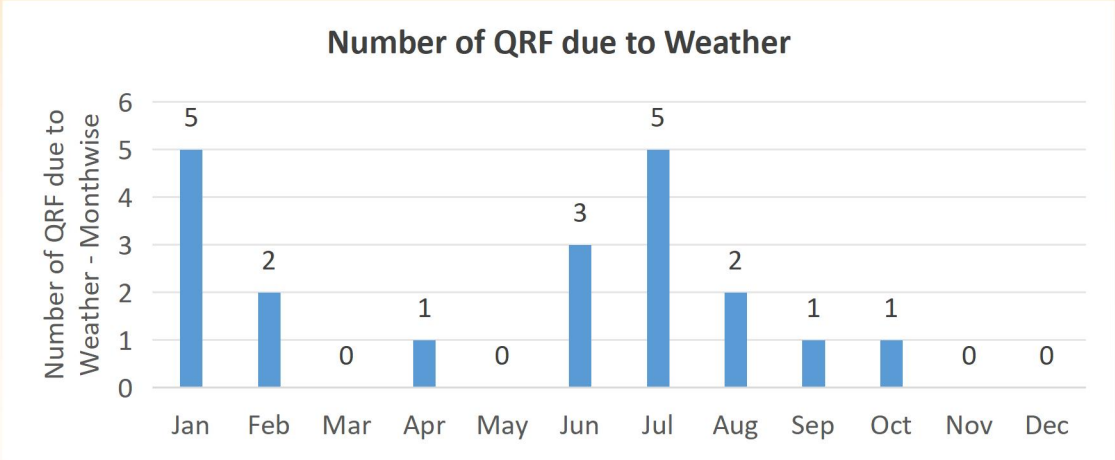
Fuel Related Reporting (FUEL)

Fuel related reporting at GBIA in 2024 includes the record of a fuel spillage and a hydraulic fluid leakage to the movement area. Spilled /leaked fuel/hydraulic fluids were managed to avoid further consequences.



Weather Related Reporting

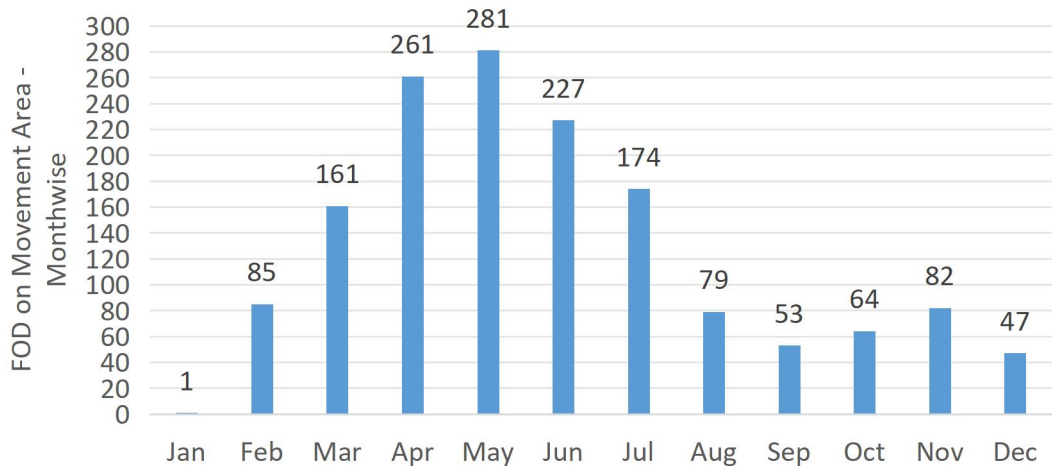
There were 20 QRF due to weather in 2024 at GBIA. From the plot, it is evident that there is high tendency of QRF due to weather during the winter and rainy season.



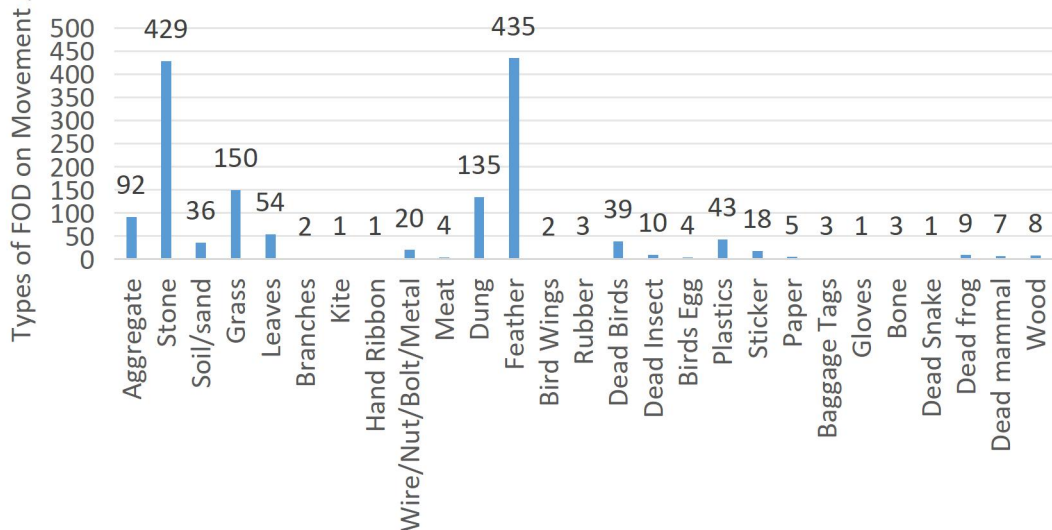
FOD on Movement Area - FOD Types and Monthly Record

From the log of collected FOD, there were total 1515 reporting. The major categories of FOD on movement area includes stones, feathers, grass, dung, aggregates, leaves, plastics etc. Most of the FOD observation was reported from Airside Unit in the months ranging from April to June.

FOD on Movement Area

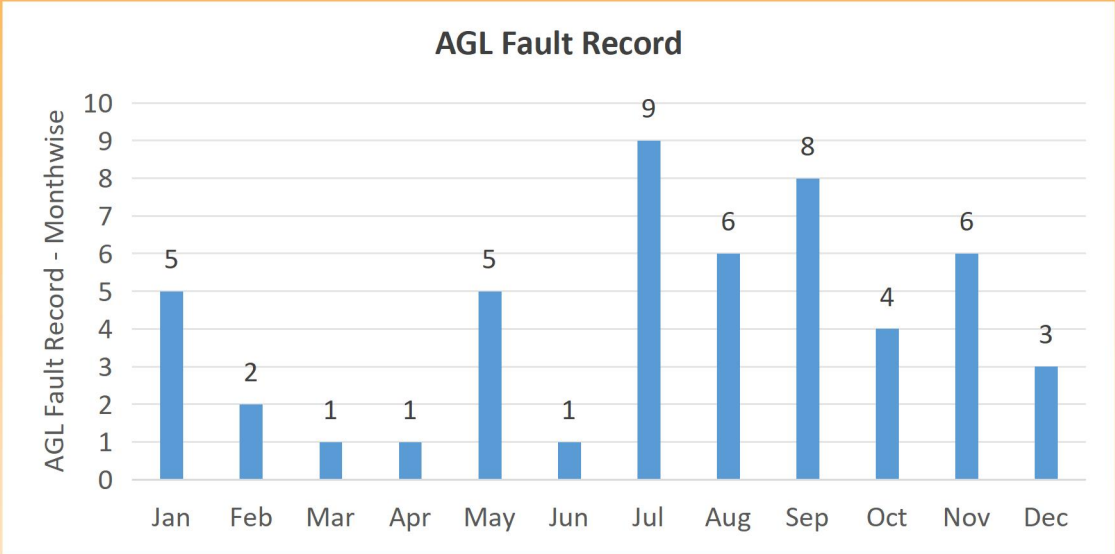


FOD on Movement Area



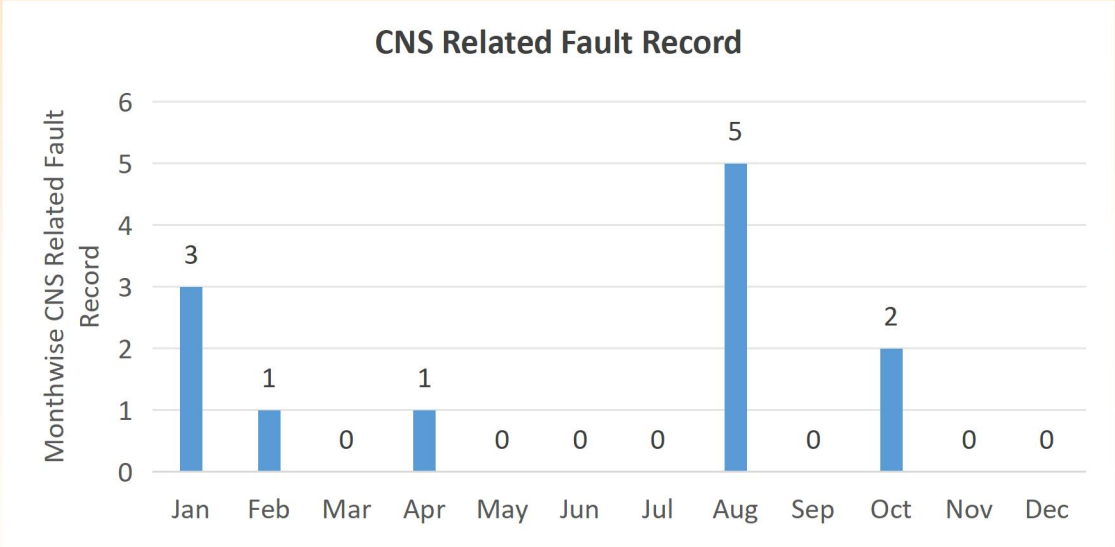
Electrical Related Fault Records

There were 51 numbers of electrical related fault hazards and one occurrence in 2024. Significant number of faults have been recorded in the rainy season, whereas winter season accounts for lower number of fault records.



CNS Related Fault Records

Safety Offices at GBIACAO has collected 12 number of CNS related faults in 2024. Except in August, there were occasional faults recorded related to CNS.



Safety Activities at GBIA in 2024

Thirty two numbers of safety related activities including 13 numbers of safety meetings, 3 safety training, 13 awareness programme, and 3 other safety activities were conducted at GBIA in 2024.

On the basis of safety activities, 5 number of leading SPIs and corresponding SPTs are noted by GBIACAO.



Flight Calibration Team at GBIA

CHAPTER 8 SPI AND SPT FOR 2025

Indicators	Occurrences	SPI	SPT
Lagging Indicators	Bird activities	Number of occurrences related to birds per 1000 FMs.	Reduce the number of occurrences related to birds by 10% over the value to last year.
	Bird hit/suspected hit	Number of incidents related to bird hit/suspected hit per 1000 FMs.	Reduce the number of related to bird hit/suspected hit by 10% over the value to last year.
	Wildlife activities	Number of occurrences related to wildlife per 1000 FMs.	Reduce the number of occurrences related to wildlife activities by 10% over the value to last year.
	FOD on movement area	Number of FOD on movement area per 1000 FMs.	Reduce the number of FOD on movement area per 1000 FMs by 10% over the value to last year.
	Fuel related	Number of occurrences related to fuel per 1000 FMs.	Reduce the number of occurrences related to fuel by 30% over the value to last year.
	CNS related	Number of hazards related to CNS per 1000 FMs.	Reduce the number of hazards related to CNS by 5% over the value to last year.
	Runway excursion	Number of incidents related to RE per 1000 FMs.	Reduce the number of incidents related to RE by 25% over the value to last year.
	Electrical related	Number of occurrences related to Electrical Related Fault per 1000 FMs.	Reduce the number of occurrences related to Electrical Related Fault per 1000 FMs by 10% over the value to last year.

Indicators	Occurrences	SPI	SPT
	Weather related	Number of occurrences related to weather per 1000 FMs.	Reduce the number of occurrences related to weather by 5% over the value to last year.
	Holdings	Number of occurrences related to Holdings per 1000 FMs.	Reduce the number of occurrences related to Holdings by 5% over the value to last year.
	Missed approach/go around	Number of occurrences related to Missed Approach/Go around per 1000 FMs.	Reduce the number of occurrences related to Missed Approach/Go around by 10% over the value to last year.
	Aborted take off	Number of occurrences related to Aborted Take-off per 1000 FMs.	Reduce the number of occurrences related to Aborted Take-off by 10% over the value to last year.
Leading Indicators	Number of hazards report	Number of Hazards from multiple sources per year.	Increase the hazards reporting over the value of last year by 5%.
	Safety awareness activities	Number of safety awareness activities.	Increase the number of safety awareness activities over the value to last year.
	Safety training	Number of safety training.	Increase the number of safety training over the value to last year.
	Number of safety committee meetings	Number of safety committee meetings.	Increase the number of safety committee meeting over the value to last year.
	Number of audit/inspection	Number of audit/inspections.	Increase the number of regular and random audits and inspections over the value to last year.

CHAPTER 9 SAFETY ACTIVITIES IN 2024

Activities conducted by GBIACO to enhance the aviation safety at GBIA in 2024 are as follows:

SN	Safety Activities	No. of Activities
1.	Number of safety committee meetings <ul style="list-style-type: none"> ➤ SAG meeting on January 07, 23, August 16, 23, September 03, November 12 ➤ SRB meetings on August 16, 27, November 13 ➤ AOSC meeting on November 13 ➤ RST meeting on November 14 ➤ WHCCIU meeting on December 12 ➤ Wildlife Hazard Management meeting on September 11 	13
2.	Safety training <ul style="list-style-type: none"> ➤ First aid training on March 27-29 ➤ Fire prevention awareness training on February 01 ➤ RCA training on July 19 	3
3.	Safety awareness activities Including construction work awareness, apron and ramp safety awareness, drain cleaning awareness, airside and ramp operation safety awareness, aerodrome work safety awareness etc.	13
4.	Other safety activities <ul style="list-style-type: none"> ➤ Full Scale Emergency Exercise on June 03 ➤ FOD Campaign on June 01 and December 28 	3
	Total	32

Safety Activities at GBIA in 2024



Glimpse of First Aid Training (27-29 Mar 2024)



Participants and Trainers at the First Aid Training



GBIA Firefighting Team at Full Scale Emergency Exercise (03 Jun 2024)



Redcross Team at Full Scale Emergency Exercise



Stakeholders Participation during Full Scale Emergency Exercise



Glimpse of Full Scale Emergency Exercise



FOD Campaign on Domestic Apron (28 Dec 2024)



Public Awareness Walkathon on the Occasion of 26th CAAN Annual Day

Operational Activities at GBIA in 2024



Nepal Airlines (Airbus A320) on GBIA International Apron



Air China (Airbus A330) Charter Flight at GBIA (On 14 Dec 2024)



Inaugural Flight of Qatar Airways (Airbus A330) at GBIA (12 Nov 2024)



Passenger Waiting in International Terminal Departure Lounge



Inaugural Flight Ceremony of FlyDubai (Boeing 737) at GBIA (9 Nov 2024)



International Apron Operation



Meeting with the Stakeholders



Sports Activities



Fire Vehicle Operation



Aerodrome Audit



Gautam Buddha International Airport Civil Aviation Office

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