FINAL REPORT

on

ACCIDENT INVESTIGATION

of

ATR 72-500 Aircraft, registration 9N-AMF

(Runway Excursion at Chandragadhi Airport, Jhapa, Nepal)

on

January 02, 2026

Operated

by

Buddha Air Pvt. Ltd.

Submitted By:

Investigator In-Charge

Submitted To:

Government of Nepal

Ministry of Culture, Tourism and Civil Aviation

25 August 2026

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Preface

On 2 January 2026, ATR 72-500, registration 9N-AMF, owned and operated by Buddha Air Pvt. Ltd. departed from Tribhuvan International Airport (VNKT), Kathmandu to Chandragadhi Airport (VNCG), Jhapa, carrying a total of 56 Persons on Board. The scheduled commercial passenger flight was planned for a night stop at VNCG. The aircraft departed VNKT at UTC 1436 hrs and touched down VNCG at UTC 1520 hrs.

During landing, the aircraft skidded and excursed the RWY28 threshold by approximately 183 meters. All passengers on board and the crew evacuated the aircraft safely. The aircraft sustained substantial structural damage.

After the accident, the Government of Nepal constituted an Aircraft Accident Investigation Body on 7 January 2026, as per the provisions of the Civil Aviation (Accident Investigation) Regulation, 2014 (2071 BS), to determine the probable cause and the circumstances of the accident. This final report on the accident has been prepared by the Aircraft Accident Investigation Body in accordance with Annex 13 to the Convention on International Civil Aviation and Civil Aviation (Accident Investigation) Regulation, 2014 (2071 BS) and The Procedure Manual of Aircraft Accident/Incident Investigation, 2022, to identify the probable cause of the accident and suggest remedial measures so as to prevent the recurrence of such accidents in future.

The investigation was assisted by Accredited Representatives from BEA France, TSIB Singapore and their advisors.

The sole objective of the investigation and the Final Report is the prevention of accidents and incidents. This investigation does not seek to apportion blame or liability. Accordingly, this report shall not be used to assign blame or determine civil or criminal liability.

Note:

a) This report contains the facts which have been determined up to the date of publication.

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c) All times used in this report are Coordinated Universal Time (UTC) unless otherwise stated. Nepal Local Time is UTC +5:45.

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Abbreviations and Definitions

AD	Airworthiness Directive
AFM	Aircraft Flight Manual
AGL	Above Ground Level
AIP	Aeronautical Information Publications
AMSL	Above Mean Sea Level
AOA	Angle of Attack
AOCR	Air Operator Certificate Requirement
ATC	Air Traffic control
ATPL	Airline Transport Pilot License
B.S.	Bikram Sambat
C of A	Certificate of Airworthiness
CAAN	Civil Aviation Authority of Nepal
CG	Center of Gravity
CPL	Commercial Pilot License
CRM	Crew Resource Management
CVR	Cockpit Voice Recorder
DG	Dangerous Good
DME	Distance Measuring Equipment
ELT	Emergency Locator Transmitter

FDR	Flight Data Recorder
FI	Flight Idle
FO	First Officer
FMS	Flight Management System
FSSD	Flight Safety Standards Department
GPS	Global Positioning System
GPWS	Ground Proximity Warning System
HF	High Frequency
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rules
KTM	Kathmandu
METAR	Aerodrome Routine Meteorological Report
MHz	Mega Hertz
MLG	Main Landing Gear
MoCTCA	Ministry of Culture, Tourism and Civil Aviation
MOC	Management of Change
MTOW	Maximum Take Off Weight
NCAR	Nepalese Civil Airworthiness Requirements
OM	Operations Manual
OCC	Operations Control Centre

PAPI	Precision Approach Path Indicator
PF	Pilot Flying
PM	Pilot Monitoring
PIC	Pilot in Command
PPC	Pilot Proficiency Check
QRH	Quick Reference Handbook
RMI	Radio Magnetic Indicator
R/W	Runway
SB	Service Bulletin
SOP	Standard Operating Procedure
SRA	Safety Risk Assessment
TOW	Take Off Weight
TSIB	Transportation Safety Board, Singapore
UTC	Universal Co-ordinated Time
VFR	Visual Flight Rules
VHF	Very High Frequency
VOR	Very High Frequency Omni Range
VMC	Visual Metrological Conditions
VNCJ	Chandragadhi Airport, Bhadrapur
VNKT	Tribhuvan International Airport, Kathmandu

Synopsis

Operator	BUDDHA AIR Pvt. Ltd.
Aircraft Type and Model	ATR 72- 500
Registration	9N- AMF
Type of Flight	Commercial Scheduled Flight
Flight Number	BHA 901
Accident Location	CHANDRAGADI AIRPORT (VNCG) BHADRAPUR, JHAPA
People on board	56 Persons on board
Date and Time of Accident	02 January 2026 at UTC 1520

All times in this report are in UTC.

On 2 January 2026, at UTC 1520 hrs an ATR 72-500 aircraft operated by Buddha Air Pvt. Ltd., registration 9N-AMF, was involved in a runway excursion accident during landing at Chandragadhi Airport (VNCG), Nepal.

The aircraft was operating a scheduled domestic passenger service from VNKT to VNCG with 56 persons on board. During the landing roll on Runway 10, the aircraft was unable to stop within the available runway distance following a long landing beyond the intended touchdown zone. The aircraft subsequently veered during rollout, exited the runway surface, breached the aerodrome inner perimeter fencing, and came to rest beyond the runway end area.

The aircraft sustained substantial structural and other damages. All occupants were evacuated successfully. Minor injuries were sustained by a few occupants during impact and evacuation. The investigation determined that the accident primarily resulted from continuation of an unstable approach and delayed go-around decision-making during night operations under degraded visual conditions.

Contributing factors included diminished Crew Resource Management (CRM), inadequate pilot monitoring performance, continuation bias, non-sterile cockpit distractions, gaps in operational adherence, tailwind conditions, degraded runway visual references, and unresolved aerodrome safety deficiencies.

The investigation additionally identified systemic organizational safety lapses involving deficiencies Flight Data Monitoring (FDM), inadequate follow-up of unstable approach events, inconsistent operational standardization, and ineffective aerodrome safety oversight.

The investigation determined that the cause of the accident was the failure to go-around on an unstabilized approach.

1. Factual Information

1.1 History of Flight

On 02 January 2026, the ATR 72-500, registration 9N-AMF, owned and operated by Buddha Air Pvt. Ltd. departed from Tribhuvan International Airport (VNKT), Kathmandu to Chandragadhi Airport (VNCG), Bhadrapur carrying a total of 56 Persons on Board.

The scheduled commercial passenger flight, flight no. BHA 901, was planned for a night stop at VNCG. The aircraft departed VNKT at 1436 hrs and touched down on VNCG at 1520 hrs.

During landing, the aircraft skid and excursed the RWY28 threshold by approximately 183 meters. All passengers on board and the crew evacuated the aircraft safely. The aircraft sustained substantial damage.

Table 1 Flight information

Date of Flight	January 02, 2026
Flight Number	BHA 901
Aircraft Registration	9N-AMF
Aircraft Type	ATR 72-500
Purpose of flight	Commercial Scheduled Flight
Permit Number	CAAN-FP554/2024
VFR/IFR	IFR
Departure	Tribhuvan International Airport, Kathmandu (VNKT)
Destination	Chandragadhi Airport, Bhadrapur (VNCG)
Time of Accident	1520 UTC

The aircraft departed Tribhuvan International Airport (VNKT) using the IGRIS1B Standard Instrument Departure from Runway 02. The First Officer (FO) was designated as Pilot Flying (PF) and the Captain (PIC) as Pilot Monitoring (PM). This represented the first operational pairing of the two flight crew members and was the fifth (last) sector of the day.

The initial climb and cruise phases were uneventful. No aircraft technical abnormalities were reported prior to descent. Cockpit Voice Recorder (CVR) information, however, revealed complacency in the cockpit during the flight. Non-operational discussions were recorded. Music through cockpit audio system was audible during several phases of the flight. The CVR revealed reduced participation by the PM during portions of the cruise phase. Heavy and sonorous breathing were recorded from the PIC's side.

Initially the crew planned an RNP RWY10 approach into VNCG. Following transfer to Biratnagar (VNVT) ATC, the crew were instructed to conduct a VOR RWY10 approach. The FO transferred control to the PIC while preparing the Flight Management System (FMS) for the revised approach procedure. Following ATC clearance to 11,500 ft, descent was initiated by the PIC, while the FO conducted the arrival briefing. Upon completion of this briefing, aircraft control was returned to the FO and the approach continued using FMS guidance.

At approximately 6 NM from touchdown, the Precision Approach Path Indicator (PAPI) displayed four red indications, as mentioned by the PF during an interview conducted during the investigation. The FO then reduced the vertical speed to regain the visual profile. The PAPI later transitioned to three white and one red indications as mentioned by the FO.

It was then reported that during short final the PAPI indications transitioned to four white lights, indicating a high approach profile.

The aircraft touched down significantly beyond the intended touchdown zone. Reverse thrust and braking were applied. The aircraft veered right and subsequently left during rollout, exited beyond Runway 28, breached the aerodrome inner fencing, and came to rest approximately 183 meters beyond the runway end, resulting in a runway excursion.

Following the excursion:

- Electrical power was lost
- Both condition levers were jammed
- Both fire handles were pulled
- Right engine shutdown was initially unsuccessful
- In an attempt to shutdown the engine, the crew pulled various levers and circuit breakers
- Cockpit-to-cabin communication was ineffective during the initial evacuation phase
- Passengers and crew evacuated through available exits without proper coordination

1.1.1 Description of the Flight

The Flight Deck Crew were paired for the first time to fly together. On the event day, they had previously completed flights to Pokhara and Biratnagar from VNKT. The flight crew were originally intended to fly to Pokhara; however, due to operational and commercial requirements, their destination was changed to VNCG.

As the CVR continued to run for a period following the crash, the initial portion of the flight appears to have been overwritten; consequently, the committee was unable to determine if cockpit preparation checklists were performed. The available CVR recording started from the cabin crew requesting permission from the PIC to board passengers.

At the start of the recording, it was found that the PIC tuned to listen to songs on a radio station. Once the Kathmandu ground control provided start-up clearance to taxi-out *in seven minutes* the PIC ceased listening to the music. The engine start checklist, before-taxi checklist, and departure clearance were subsequently performed in accordance with Standard Operating Procedure (SOP).

After the flight crew transitioned to the tower frequency (118.1 MHz), the aircraft was instructed to hold on the taxiway. During this hold at taxiway 'C', which lasted approximately six minutes, the flight deck crew engaged in casual conversation. VHF 2 was tuned to the OCC frequency (129.05 MHz) with the volume loud enough to be heard between ATC and internal transmissions, contrary to SOP requirements (pg. 76, 1.24.2).

The take-off sequence followed SOP. Control was transferred from PIC to FO after reaching 70 kts; from that point onwards, the FO assumed control and he was designated as PF, and the PIC as PM.

Flight Descent and Approach

Background noise was heard in CVR recording, masking some of the flight deck conversation. The PF handed over controls to the PM and provided the approach briefing. During the briefing, potential threats were discussed, and the missed approach procedure was briefed. A stabilization altitude of 1300 ft was indicated. VNVT was briefed as the alternate aerodrome, or VNKT if fuel remained sufficient.

There were various inputs in the PM’s headset such as music, the ATC VHF frequency, and company frequency during the performance of checklist items. Conversely, the PF’s headset did not receive input from these unnecessary channels. The descent checklist was performed and completed. Shortly after the completion of the descent checklist, the PF began listening to music.

Just before reaching checkpoint MAHES, a point on final approach to VNCG R/W 10 at 8 NM, the PF stopped listening to music while the PM continued with it. BHA 901 reported passing MAHES to VNCG Tower; they acknowledged the position and cleared BHA 901 to land. After MAHES, during the approach, the PF called for flaps, gear down, and other procedural items as per SOP, which the PM complied with. The flaps were extended to 30°.

The PM was still listening to music on the radio station when the PF called for the 'Before Landing checklist'. The PM replied, 'Final Landing' and performed the check as per SOP. The PM called out that the aircraft was stabilized, and shortly afterward, the PF called out 'PAPI visual'. Below 500 ft AGL, the PM advised the PF on corrections; the PF then called for correcting for PAPI, which the PM acknowledged with 'check’. The PF then called 'going manual' and disengaged the autopilot.

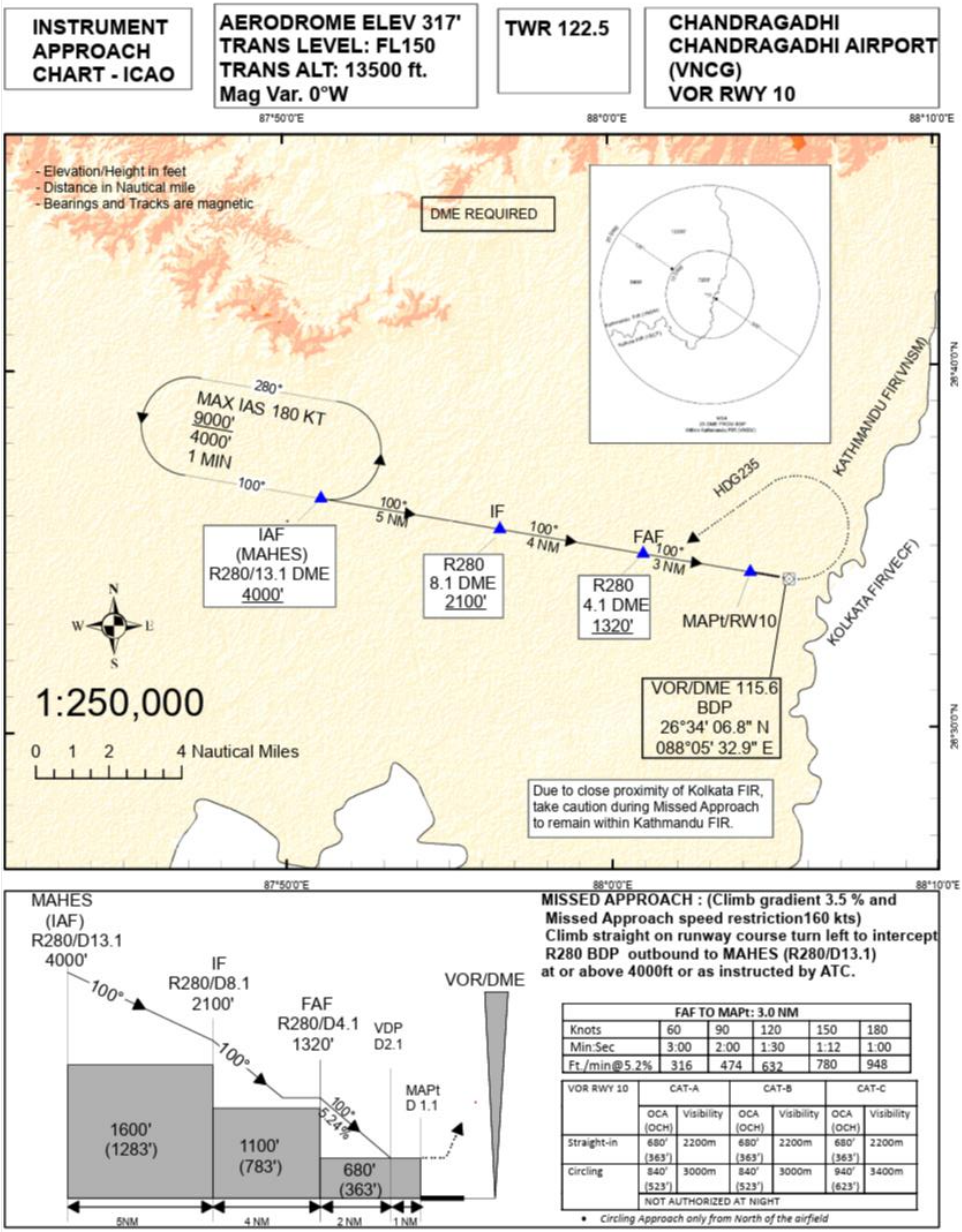

Figure 1 VNCG VOR approach chart (AIP Nepal)

Final Approach and Impact

At approximately 15:19:00, the autopilot was disengaged when the aircraft was at 459 feet above ground level (AGL), approximately 1.44NM from the runway threshold. The power lever angle (PLA) positions at this point were 50 and 49 degrees for the left and right engines, respectively, while the torque values for both engines were approximately 32%. At that moment, the aircraft magnetic heading was 105 degrees, and indicated airspeed was 114 kts . The recorded wind direction and speed at that point was 264 degrees and 20 kts respectively.

Over the next 53 sec, prior to the aircraft touching down on the runway, it was observed that there was movement on the ailerons and the roll angle varied between -4 to +2 degrees (See Figure 2). The pitch attitude gradually decreased to a larger nose down attitude where the maximum pitch angle was -5 degrees (nose down) before the pitch angle was increased to close to 0 degrees just before touchdown. During this period, there were corresponding changes to the left elevator position varying between -2 degrees (pitch surface up) and +3 degrees (pitch surface down).

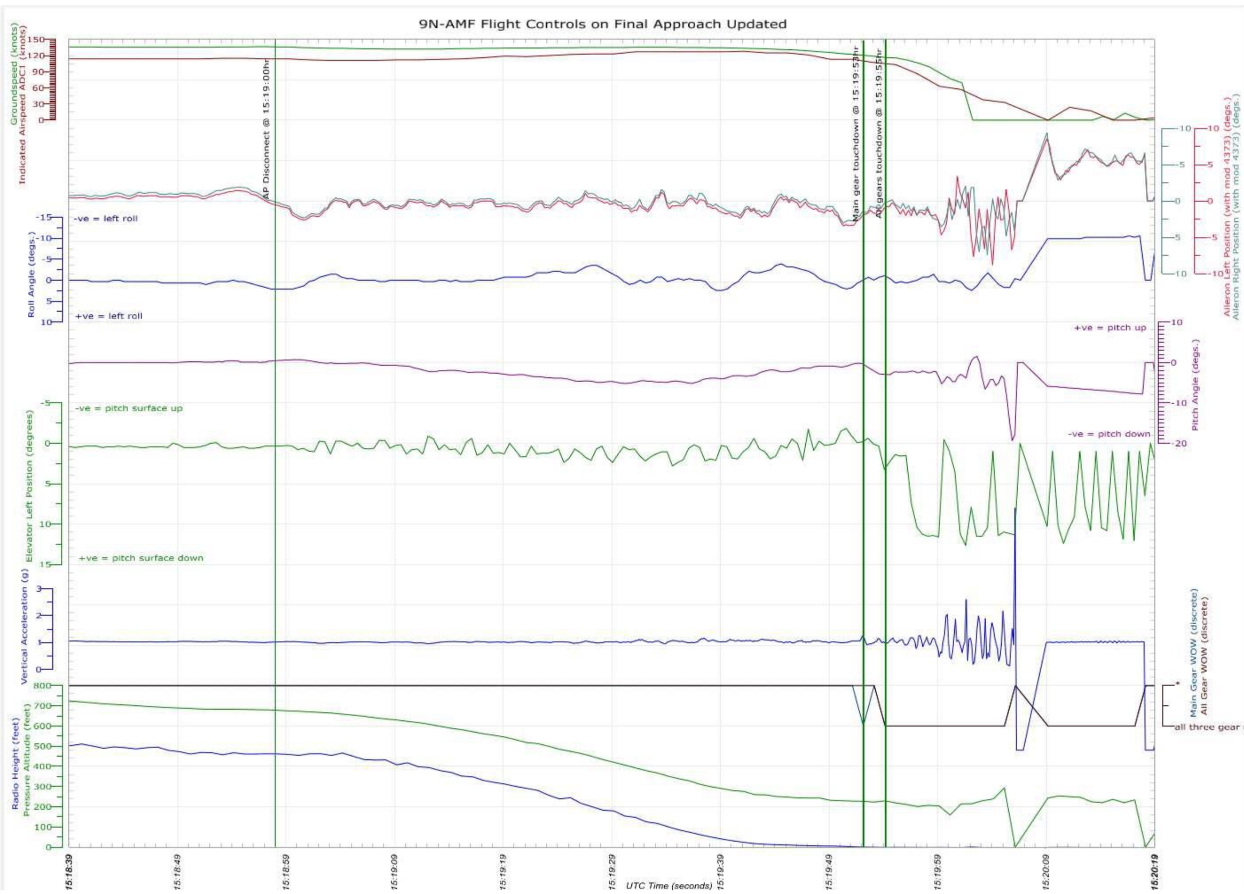

Figure 2 Flight controls on final approach

The PF continued correcting for PAPI at 20 seconds before reaching 200 feet on the radio altimeter. At the 40-foot announcement, the PM told the PF to continue. The aircraft arrived over the threshold at around 15:19:39 where it was approximately 70 feet AGL and the IAS was 127 kts .

At 20 feet, the PM again instructed the PF to continue. At 15:19:46, when the aircraft was over the runway and 10 feet AGL, the left and right PLA were reduced to 38 and 35 degrees (torques below 10%), respectively. Shortly thereafter, the PF questioned whether they could make the landing. A "go-around" call was made by the PF only four seconds before impact; however, a go-around was not initiated.

At 15:19:53, the first weight-on-wheels (WOW) for both main gears were recorded and the position of the aircraft was 26.570428° (latitude) 88.082350° (longitude) where the aircraft was about 420 meters from the end of the runway (See Figure 2). At the same time, the recorded PLA increased for both engines momentarily. Two seconds later at 15:19:55, the weight-on-wheels for all three landing gears were recorded. Subsequently, a series of fluctuations in the vertical acceleration was recorded reaching a maximum value of +2.59G at 15:20:02.

Following the touchdown the aircraft experienced a runway excursion. The aircraft exited the runway end, veered slightly to the left, and broke the perimeter fence before coming to a halt over a small stream. Following this, fifteen seconds later, VNCG tower gave taxi clearance to holding point to another aircraft waiting to enter the runway.

The vertical acceleration values returned to the normal value of +1G around 15:20:11 by which time, the groundspeed had reached 0 kts . The last valid position data recovered from the FDR was 26.569570° (latitude) 88.088015° (longitude).

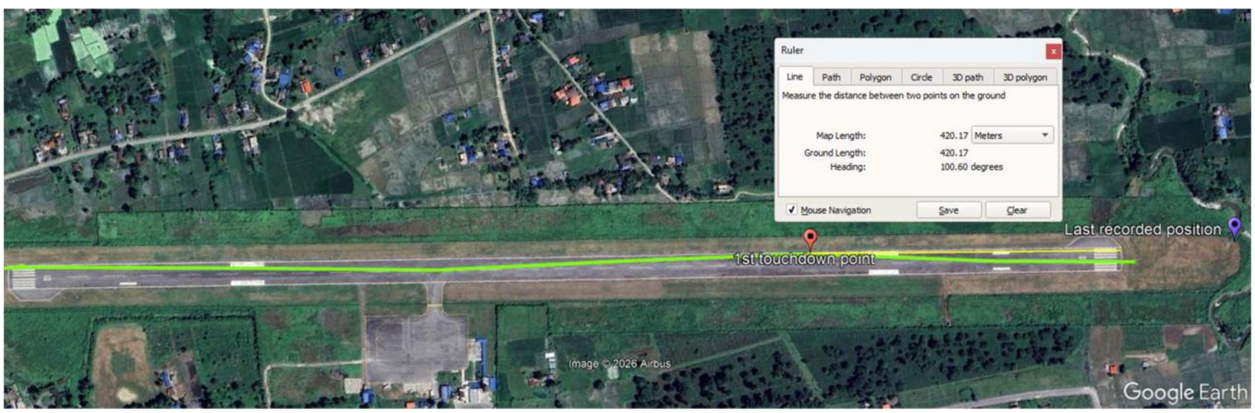

Figure 3 Floating path and touchdown location of the aircraft

Post-Impact Actions and Evacuation

Following the impact, the PIC and FO attempted to shut down both engines by retarding the condition levers to the feather and fuel cut-off positions. However, these attempts were unsuccessful due to impact-induced damage that caused jamming of the condition-lever cable system. The flight crew subsequently initiated an emergency engine shutdown procedure by pulling the engine fire handles. The left engine eventually shut down; however, the propeller did not feather, while the right engine continued to run at idle power.

The cabin and flight deck areas were dark as the emergency lighting systems failed to trigger. An evacuation command was not issued from the flight deck because there was no available means of communication between the flight crew and the cabin crew. The purser attempted to open the passenger entry door but found it was stuck. She then opened the service door on the right side of the fuselage and evacuated the passengers. Due to the lack of aircraft electrical power, torches and mobile phone lights were used for illumination. Both the forward emergency exits were not initially used for evacuation, as both were found to be jammed. During the evacuation, a passenger reportedly succeeded in opening the left-hand emergency exit and exited the aircraft safely. Although the area outside the aircraft was dark, no serious injuries occurred to the evacuated passengers and crew.

Airport Rescue and Fire Fighting (ARFF) personnel arrived at the accident site and assisted with the remaining rescue operations. As no post-impact fire occurred, firefighting agents were not required. Approximately ten minutes after the runway excursion, the FO isolated selected circuit breakers attempting to shutdown of the right engine. The right engine was shut down shortly thereafter.

1.1.2 Crew Statements

The flight crew described the flight and actions taken in separate interviews, in multiple phases, as described below.

PIC's Statement

The PIC stated that he was generally more comfortable flying with senior FO and was concerned about flying with newly released FO. However, during this flight, he was impressed with the FO's handling skills, stating that the FO was performing like a 1,000-hour FO. Based on this performance and the FO's verbal confirmation that he had previously landed at VNCG at night, the PM relied on this confirmation and assigned PF duties to the FO.

The PIC stated that the flight progressed normally, with no issues during any phase. The approach was properly briefed as planned, with no last-minute changes. Weather conditions were reported as fine, with a tailwind of approximately 4–5 kts. During the approach, the PIC initially observed three red and one white on the PAPI, which later changed to four red. The PF corrected the vertical speed, after which the PAPI changed to three white and one red. Later, on short final, the PAPI indication changed to four white.

The PIC stated that due to limited runway lighting, including the absence of centerline lights and runway end lights, he was unable to judge the remaining runway length. He does not remember the approach speed during short final or at the time of flare. According to the PIC, touchdown was normal but occurred late. Maximum reverse thrust and braking were applied; however, it was too late to initiate a go-around, and the aircraft overran the runway.

After the impact, all lights went off. The PIC attempted to shut down the engines, but the condition levers were stuck. PIC then attempted to shutdown the engines using the fire handles. The left engine shut down, but the right engine continued running. There was no communication with the cabin crew for evacuation. When the flight crew entered the cabin, evacuation had already commenced from the right-hand aft service door and the left-hand forward emergency exit door.

FO's Statement

As per FO's statement, in a 10-day roster the FO typically flew 5–6 days. FO's last flight was one day prior to the accident and had landed once at VNCG during instructional flight hours. The FO had also landed at some stations such as Nepalgunj and Biratnagar; however, night landings at those aerodromes were assisted.

The FO stated that the flight departed Kathmandu using IGRIS 1B, Runway 02. The first half of the flight was normal, with no issues. During the cruise phase, the PIC was busy adjusting his headset, and aircraft control and communications were handled by the FO.

Initially, the FMS was planned for an RNP-10 approach at VNCG. When Kathmandu handed over to Biratnagar Control, ATC assigned a VOR/DME-10 approach. The FO handed over control and communications to the PIC and began preparing the FMS. ATC then cleared the aircraft to descend to 11,500 feet, and the PIC initiated the descent. The FO conducted the approach briefing, after which control was handed back to the FO. The descent continued using FMS guidance.

At approximately 6 NM, the PAPI was visible and indicated four red, and the vertical speed was adjusted to 200–300 feet per minute. Later, the PAPI changed to three white and one red, which the FO stated was intentional due to trees on final. When the PAPI showed four white, he disconnected the autopilot and continued manually.

At 1,000 feet, the aircraft was stable with a speed of approximately 120 kts and a vertical speed of 1,000 feet per minute. The calculated V_{ref} was 107 kts. The FO observed a tailwind of 8–9 kts on the navigation display, although the reported wind was 4–5 kts and was expected to decrease during the flare.

During the flare, the FO felt a sink and added a small amount of power. The aircraft floated longer than expected. The FO asked the PIC, "Can we make it?" The PIC replied, "Yes," and the FO continued the landing. No call-out was made by the PM after touchdown.

The FO stated that no runway end lights were visible, and was unable to judge the remaining runway length. The FO did not clearly remember the application of reverse thrust, stating that braking was applied but it was not sufficient to stop the aircraft.

During the interview, the FO stated having no go-around experience in actual aircraft. FO also stated that approximately 50%-60% of instructors strictly followed SOPs, with overall SOP compliance around 90%. A torque split issue was mentioned, with approximately a 15% difference between engines at the same power lever position, which potentially prevented the rapid reduction of power during the flare.

The aircraft remained high and fast during the latter stages of the approach. During flare, the FO perceived a sink tendency and applied slight power. The aircraft subsequently floated significantly longer than anticipated. After the runway excursion, the FO's one foot was stuck. Both condition levers were also stuck. The fire handle was pulled several times, and the left engine was shut down. The right engine was shut down later after pulling circuit breakers. There was no communication with the cabin crew.

The crew subsequently reported that runway remaining distance could not be effectively assessed due to:

- absence of clearly visible runway-end lights
- lack of runway centerline lighting
- runway visual cues during night operation

1.2 Injuries to Persons

A total of 56 people were on board the aircraft. No passengers sustained serious injuries; only the co-pilot and four passengers suffered minor injuries and received initial medical treatment. Details of the injuries are as follows:

Fatal Injuries	:	Nil
Serious Injuries	:	Nil
Minor Injuries	:	5

Details on injuries to persons is shown in Table 2.

Table 2 Injuries to persons

Injuries	Crew	Passengers	Total
Fatal	-	-	-
Serious	-	-	-
Minor	1	4	5

1.3 Damage to Aircraft

The aircraft sustained substantial damage including:

- severe damage to nose landing gear
- damage to both propellers
- engine damage
- lower fuselage structural damage
- other airframe damage associated with runway excursion sequence.

1.4 Other Damage

The aerodrome inner fence was damaged by the aircraft. For removal of damaged aircraft and obstacle removal from the aerodrome purposes, the aerodrome operator authorized fuel dump at the creek located at the end of RWY10.

1.5 Personnel Information

The aircraft was operated as a scheduled domestic passenger flight by Buddha Air using an ATR 72/500 aircraft. Both flight crew members were appropriately licensed, current, and medically fit. The flight was conducted within applicable flight and duty time limitations.

In a 10-day duty roster, the crew typically flew 5–6 days with 4–6 sectors per day, averaging approximately 70–75 flight hours per month. Prior to the occurrence of flight, the PIC had two days off, while the FO was on his second day after off-duty. The occurrence flight was the fifth sector of the day.

Table 3: Profiles of PIC and FO

	PIC (Pilot Monitoring)	FO (Pilot Flying)
License Issuing Authority	CAA Nepal	CAA Nepal
License Validity	14 May 2028	28 February 2030
Aircraft Rating	ATR 42/72	ATR 42/72
Instructor Rating	N/A	N/A
Total hours flown	7133:19 (till Dec - 2025)	498:04 (till Dec -2025)
Total hours on type	6501:07 (till Dec - 2025)	295:40 (till Dec - 2025)
Flight hours in last 12 months	895:25 (Jan 2025 -Dec 2025)	295:40 (Mar 2025 - Dec 2025)
Flight hours in last 3 months	201:50 (Oct 2025 -Dec 2025)	140:30 (Oct 2025 - Dec 2025)
Flight hours in last 30 days	59:10:00	46:50:00
Flight hours in last 7 days	4:00:00	4:30
Previous Rest Period	1 January 2026	31 December 2025
Medical Certificate Type	Class I	Class I
Medical Validity	30 April 2026	28 Feb 2026
Aviation Language Proficiency	Level - 4	Level – 4
Language Proficiency Validity	11 June 2026	10 February 2028
Limitations/Restrictions	NO	NO
Previous Accident/Incident	NO	NO
Enforcement	NO	NO
Emergency Evacuation Training	April-2025	April-2025
Simulator Training	August-2025	November-2025
Dangerous Goods Regulation	April-2024	January-2025
Route Check	27 October 2025	1 November 2025

PPC with Instrument, IP/DCP	14 August 2025	8 November 2025
Ground Refresher	April-2025	April-2025
Crew Resource Management	April-2025	April-2025

1.5.1 Background of PIC

The PIC began initial flying training in 2010 from Philippines. PIC obtained the CAAN CPL in 2014/2015 and joined Buddha Air in 2016. PIC completed ATR training in October 2017, was upgraded to Captain in March 2023, and was released as PIC in October 2023. No corrective training was required during the upgrade. PIC has no medical issues except the use of corrective glasses, with one eye at -2 and the other at -1. PIC had completed approximately 7133 total flight hours, with approximately 6501 hours on ATR aircraft with total 2223 PIC hours and with no previous accident/incident reports.

1.5.2 Background of First Officer

The FO began flying in 2021–2022 in South Africa, flying for approximately 18 months to 2 years. FO joined Buddha Air in August 2024 and commenced line operations in March 2025. FO had accumulated approximately 261 hours on type, with around 100 hours of line flying prior to the accident. The FO had PF experience with limited night landing and had no go-around experience in actual aircraft.

1.6 Aircraft Information

Table 3 summarizes the aircraft information.

Table 3 Aircraft information

Operator	Buddha Air Pvt. Ltd.
Owner	Buddha Air Pvt. Ltd.
Model/Type	ATR 72-500
Type of flight	Scheduled commercial passenger
A/C MSN	764
Year of manufacture	9 October 2007
Registration	9N-AMF
Total Time since New	28014.09 hrs
Total Cycle since New	49409
Validity of Certificate of Release to Service	Carried out on 12 December 2025. Next due: 50144 cyc
Engine	LH
Manufacturer	Pratt & Whitney,Canada
Model/Type	PW127M
Serial Number	ED1245

Total Time Since New	11026:11 HRS
Total Cycle Since New	19331Cycle
Last Overhaul date	N/A (New engine when installed)
Engine	RH
Manufacturer	Pratt & Whitney,Canada
Model/Type	PW127M
Serial Number	ED1685
Total Time Since New	10853:01 HRS
Total Cycle Since New	16783 Cycle
Last Overhaul date	N/A (New engine when installed)

1.6.1 Aircraft History

The aircraft was manufactured in 9 October 2007 with serial number 764. The aircraft was first registered as VT-JCT with Jet Airways, India in November 2007. The aircraft was delivered to Buddha Air in March 2018 and was subsequently registered as 9N-AMF in Nepal.

The aircraft was reported airworthy prior to departure. No MEL, CDL, or deferred maintenance defects were recorded. The investigation identified no evidence of any primary technical malfunction contributing to the occurrence.

1.6.2 ADs/SBs Status

All applicable Airworthiness Directives (AD) had been complied with.

1.6.3 Review of Maintenance Documents

A comprehensive review of the aircraft maintenance records revealed the following:

1. A survey inspection for the renewal of the Certificate of Airworthiness (C of A) and Airworthiness Review Certificate (ARC) was successfully carried out on 15 March 2025.
2. The most recent scheduled maintenance check (Work Package No. 002-AMF-25/26), which included an A/2A Check, was completed on 12 December 2025.
3. Examination of the maintenance records confirmed that the aircraft, engines, and propellers were maintained under a continuous maintenance programme in accordance with the approved Maintenance Planning Document (MPD). The programme comprised both calendar-based and flying hour/cycle-based maintenance tasks as approved by CAAN. In addition, all required transit, layover, and weekly inspections were carried out within the prescribed intervals prior to the accident.
4. All applicable ADs, mandatory modifications, and miscellaneous modifications were found to have been complied with within the prescribed compliance periods. Verification of installed components against the CAAN-approved Time-Controlled Component List

confirmed that all components were operating within their approved life limits. Component replacements were carried out in accordance with the applicable approved maintenance requirements.

5. Maintenance accomplishment records and logbook entries associated with the approved maintenance programme were properly certified by appropriately licensed Aircraft Maintenance Engineers (AMEs). The review confirmed that the aircraft had been maintained in accordance with the approved maintenance programme and that all scheduled maintenance activities were completed within the stipulated intervals. Component replacement activities were appropriately controlled and documented through work orders.

6. It was observed that the following parameters of interest for the investigation appeared to be invalid:

   a) AP and yaw damper was not engaged for most of the flight sector
   b) DME distance appeared to be the same value for most of the flight sectors
   c) Decision height, autopilot lateral and vertical flight modes did not appear to be available for the event flight

   The last maintenance document for the most recent two performance check on the FDR installed on 9NAMF was examined and the following anomalies were observed:

   a) Check on 21 Nov 25: AP was off and DME distance was 9 for all recorded entries
   b) Check on 25 Feb 25: DME distance was 9 for all recorded entries, AP was not recorded

7. Completed maintenance schedules were independently reviewed by the Quality Assurance Department to verify that all inspection items and associated work orders (off-job sheets) had been properly certified by authorized and appropriately licensed personnel. Examination of the complete maintenance documentation revealed no non-conformities with applicable requirements. Records pertaining to Airworthiness Directive compliance, component life control, and related maintenance activities were reviewed and found satisfactory. Furthermore, no evidence of repetitive defects or recurring technical discrepancies was identified in the period leading up to the accident.

8. Based on the foregoing review, it is concluded that the airworthiness and serviceability of the aircraft were not contributing factors to the accident.

A detailed examination of the available maintenance records for aircraft 9N-AMF did not reveal any significant discrepancies or deficiencies in the maintenance performed. The aircraft was maintained in accordance with the approved maintenance program and applicable regulatory requirements.

1.6.5 Examination of Engines Performance

No malfunctions were recorded in either of the engines during the aircraft movement on the ground and during the subsequent events upon rotation for takeoff.

1.6.6 Weight and Balance Information

Passengers:	52
Crew:	4
Baggage:	545 kg
Cargo:	14 kg
Fuel on Board:	2200 kg
TOW:	20210 kg
Dangerous Goods:	N/A

As per load and trim sheet manifest, the aircraft weight and CG were within prescribed limits.

1.6.7 Maintenance Management

Buddha Air is an NCAR Part M, Subpart G approved organization (CAAN.M.009) holding CAAN Air Operators Certificate No. 014/1996. Its aircraft are maintained by its own NCAR Part 145 AMO under the approval on CAAN.145.002. The other maintenance support is outsourced to appropriately approved Maintenance organizations in accordance with the procedures described in the Continuing Airworthiness Management Exposition.

1.7 Meteorological Information

The reported METAR of VNCG were as follows:

230/04 3000m BR NSC T18 Q1014

Weather conditions at the time of arrival were reported as operationally acceptable.

Reported conditions included:

- wind 230/04
- visibility 3000 meters
- mist conditions
- QNH 1014
- night operations

Tailwind conditions between 4–9 kts existed during the approach and landing phase. The investigation determined that the tailwind increased landing distance requirements and reduced available stopping margin.

The PIC stated that the weather conditions were reported as good. A tailwind of approximately 4–5 kts was reported, while the FO reported that a tailwind of 8–9 kts was observed on the navigation display during the approach.

1.8 Aids to Navigation

VNCG is equipped with VOR/DME.

1.9 Communications

ATS communication facilities are available at VNCG.

1.10 Aerodrome Information

VNCG is a non-certified airport located at the far eastern region of Nepal. The most up-to-date details of the airport are published in CAAN's AIP.

- Airport Name: Chandragadhi Airport
- Elevation: 94.4 m
- ICAO Location Indicator: VNCG
- Airport Reference Point: 26°34'11' N / 88°04'38''E
- Location: Bhadrapur Municipality, Jhapa District, Koshi Province, Nepal
- Type of Traffic Permitted: IFR/VFR
- Runway Surface: Asphalt concrete
- Runway Dimension: 1500 m × 30 m
- Runway Designation: 10-28
- Stopway, Clearway: Not Available
- RESA: Not Available
- Taxiway: TWY A

As per the AIP, VNCG is declared equipped with runway lighting on edge and at the end.

1.11 Flight Recorder

The aircraft was fitted with L3 Communication's CVR and FDR. The download, decode, analysis and read-out were carried out at TSIB, Singapore.

Table 4 FDR and CVR Information

SN	Recorder	Model	Part No.	Serial Number
1	Flight Data Recorder (FDR)	L3 FA2100 FDR	2100-4043-00	000297830
2	Cockpit Voice Recorder (CVR)	L3 FA2100 CVR	2100-1020-02	000967449

1.12 Wreckage and Impact Information

The aircraft overran the runway and travelled approximately 183 m beyond the runway end across grassy terrain before coming to a rest in a creek measuring approximately 50 feet wide and 12 feet deep. During the overrun sequence, the aircraft impacted the airport perimeter fence and subsequently crossed into the creek area where it finally rested.

The aircraft sustained substantial damage. The aircraft's nose landing gear broke and collapsed into the landing gear bay after the aircraft overran the runway and impacted the creek beyond the eastern end of the runway. The impact caused significant damage to the lower section of the nose fuselage.

The nose section was displaced a few feet aft, resulting in the control columns being pushed toward the pilot and co-pilot seats. Both left- and right-hand propellers struck the ground during the impact. Although the propeller assemblies remained attached to the engines, nearly all composite propeller blades were fractured or severely damaged.

The cockpit flight instrument panel was heavily damaged and rotated by 90°, facing the ceiling instead of the flight crew. The central pedestal showed mechanical deformation. The overhead panel and the breaker shelves were found intact.

Figure 4: Wreckage of the event aircraft at VNCG, showing in situ condition of the exterior of the aircraft at the wreckage site and the position of the power (in reverse) and condition (between auto and 100% OVRD) levers

The exhaust cones of both engines were displaced because of the propeller strikes and landing impact. A significant oil splash was observed on the lower right-hand fuselage area beneath the wing, likely to originate from the propeller hub following the propeller strike. Additionally, several wrinkles were noted on the fuselage skin below the wing leading edge, indicating structural deformation from the impact forces.

In summary, the aircraft sustained substantial structural damage, particularly in the nose section, due to the high-energy impact, rendering the aircraft beyond economical repair (BER).

1.13 Medical and Pathological Information

The Pilot in Command (PIC)

The PIC's class 1 medical certificate was valid till 30 April 2026.

As per the medical record, the following information was found:

- The PIC was found to be medically fit for flight.
- No health defect existed prior to or to the time of the accident.
- Previous medical history and findings of examinations gave no indications of abuse of alcohol, medicines or drugs.
- PIC was prescribed corrective glasses.

The Co-Pilot (F/O)

The FO's class 1 medical certificate was valid till 28 February 2026.

- The FO was found to be medically fit for flight.
- No significant health defects existed prior to or to the time of the accident.
- Previous medical history and findings of examinations gave no indications of abuse of alcohol, medicines or drugs.

1.14 Fire

There was no evidence of fire after the impact.

1.15 Survival Aspect

No fatalities occurred. No post-accident fire was reported. Hence, only minor injuries occurred.

1.5.1 Passenger Action

Due to darkness in the cabin and the lack of communication between the cockpit and cabin, after the aircraft came to halt the evacuation procedure did not occur in a controlled manner. Though the cabin crew repeatedly asked the passengers to leave their belongings during the evacuation, many passengers disregarded the instructions and made the evacuation procedures more challenging.

1.15.2 Evacuation

The evacuation did not occur in a controlled manner. However, the evacuation was completed successfully without major injuries.

1.16 Tests and Research

A detailed analysis of the failures of the emergency light system and the engine shutdown was carried out.

1.17 Organization and Management Information

1.17.1 Buddha Air Pvt. Ltd.

Buddha Air Pvt. Ltd. is a domestic airline in Nepal established in 1997 with a Beechcraft 1900D. company is managed by a board of directors, with a management structure encompassing flight operations, engineering and maintenance, safety and quality assurance, commercial operations, finance, human resources, and customer service. As of 2026, Buddha Air operates an all-ATR fleet consisting primarily of ATR 72-500 aircraft, supplemented by a small number of ATR 42-320 aircraft. The current operational fleet comprises of 16 aircraft in active service.

1.17.2 Civil Aviation Authority of Nepal (CAAN)

CAAN was established as an autonomous regulatory body on December 31, 1998, under Civil Aviation Authority Act, 1996. Currently, CAAN acts as both the regulator and service provider in terms of airport operations and air navigation services amongst others. It issues Requirements, Directives, Manuals, Order and Circulars for implementation of the rule, annex, manual and standards prescribed by the international organizations in relation to air service operation. The authority also issues Air Operator Certificates and Aerodrome Operator Certifications. It also oversees the safety monitoring of organizations to which it issues, suspends, or revokes certificates.

1.17.3 Ministry of Culture Tourism and Civil Aviation (MoCTCA)

The Ministry of Culture, Tourism, and Civil Aviation is responsible for state-level duties related to civil aviation, including accident and serious incident investigations. Currently, Nepal does not have a permanent body for the investigations. Instead, each incident is investigated by a separate Accident and Serious Incident Investigation Commission or Committee, constituted by the state as per Rule 9 of the Civil Aviation (Accident Investigation) Rules, 2014 AD (2071 BS). The Ministry's Aviation Safety and Accident Investigation Section acts as the secretariat for the commissions.

2. Analysis

2.1 Preliminary Assessment

Based on a first-level review of the crew statements and operational context provided during the pilot interview, the following initial impressions emerge. These are not conclusions, but early analytical observations to guide deeper investigation.

In particular, the CVR revealed:

- non-sterile cockpit activity
- continuous listening to music
- casual unrelated discussions
- reduced monitoring participation
- heavy and sonorous breathing sounds from PM position
- inadequate checklist discipline
- delayed go-around recognition
- reassurance by PM despite deteriorating approach stability

The CVR significantly assisted with reconstruction of the operational and human-factor sequence leading to the accident

2.1.1 Operational & Crew Context

- Both flight crew were properly licensed, current, and medically fit.
- PIC was moderately experienced in the role.
- First Officer was relatively new on type (approximately 100 hour’s line flying) and newly released.
- This was the first time the crew had flown together, increasing CRM and monitoring vulnerability.
- Duty and rest appear compliant, though this was the fifth sector of the day.

2.1.2 Decision-Making & Crew Resource Management

- Captain relied only on verbal confirmation of the FO’s prior night landing experience at VNCG, without cross-verification.
- FO’s expressed implicit doubt (“Can we make it?”) during the flare phase indicated late recognition of landing performance risk.
- No assertive call for go-around from either pilot, despite:
    - Long float
    - Tailwind
    - Uncertainty of remaining runway length
    - High approach speed
- CRM effectiveness was degraded, with weak challenge-and-response dynamics and missed go-around decision gates.

2.1.3 Crew Pairing & Expectation Bias

The PIC reported greater operational comfort when paired with senior FO and expressed concern when flying with newly released FO.

However, during this flight, the PIC formed a positive performance-based perception of the FO, who demonstrated handling skills assessed by the PIC as comparable to a FO with approximately 1,000 hours of experience.

This perception likely contributed to

- Expectation bias, where the PIC subconsciously reduced active monitoring intensity.
- Increased reliance on the FO's manual handling rather than strict procedural compliance.
- No intervention by PIC despite emerging cues of increased landing risk.

2.1.4 Startle Effect during Landing Phase

During the flare and landing phase, the crew was exposed to a rapid convergence of unexpected cues, including:

- Excessive float following flare
- Degraded visual cues due to limited runway lighting
- Inability to visually identify runway end lights
- Rapidly diminishing stopping margin
- Real-time uncertainty expressed by the FO

2.1.5 Approach & Landing Stability

- Tailwind reported between 4–9 kts, increasing landing distance.
- Visual cues deteriorated:
  - No centerline lighting
  - No runway end lights visible
- Aircraft experienced long float, consistent with:
  - Excess energy
  - Speed significantly above V_{ref}
- Approach did not meet stabilized approach criteria below 1,000 ft AGL.

This appears consistent with a continued unstable approach, followed by plan-continuation bias.

2.1.6 Aircraft & Technical Factors

- No MEL/CDL items.
- First Officer reported some engine torque split, which may have influenced power handling during flare.
- Post-impact:
  - Condition levers jammed
  - Only partial engine shutdown achieved

- The fire handles did not function as intended

These issues appear consequential, not causal. No evidence at this stage of a primary technical cause that might have contributed to the runway excursion.

2.1.7 Landing Performance

The investigation assessed the landing performance of ATR 72-500 aircraft at Chandragadhi Airport (VNCG) using Flight Data Recorder (FDR) information, aircraft loading data, prevailing meteorological conditions, aerodrome characteristics, and the applicable Aircraft Flight Manual (AFM) landing performance data.

At the time of landing, the aircraft had a recorded landing weight of 19,691 kg with the center of gravity at 24.67% MAC. The landing was conducted on Runway 10, which has a Landing Distance Available (LDA) of 1,500 m, with Flap 30 selected. The prevailing weather was reported as wind 230°/4 kt, visibility 3,000 m in mist (BR), no significant cloud, temperature 18°C, and QNH 1014 hPa. The airport elevation of approximately 316 ft and the prevailing atmospheric conditions were not considered to have had a significant effect on landing performance. The reported wind resulted in an estimated tailwind component of approximately 2 to 3 kts and a crosswind component of approximately 3 kt. The factored landing distance for the above conditions was around 893 m as per the aircraft's AFM.

The AFM landing performance data indicate that, at the recorded landing weight and under the prevailing environmental conditions, the aircraft was capable of landing within the available runway length, provided the approach was stabilized, the runway threshold was crossed at the prescribed reference speed, and touchdown occurred within the normal touchdown zone. Accordingly, the available landing distance of 1,500 m was adequate for the aircraft under the existing operating conditions.

However, FDR data showed that the aircraft crossed the runway threshold at approximately 50 ft above the runway at an indicated airspeed of 127 kt, which was around 20 kts higher than the expected reference landing speed for the recorded landing weight. During the flare, the aircraft IAS was around 128 kts and approximately 113 kts prior to touchdown. The aircraft subsequently touched down approximately 1,080 m beyond the runway threshold, leaving only about 420 m of paved runway available for deceleration. This delayed touchdown led to a substantial reduction in the available stopping distance. As the landing continued, the remaining margins became insufficient to prevent a runway overrun, making the decision making associated with a potential go-around a relevant factor in the occurrence.

2.1.8 Airport & Environmental Factors

Night operations at VNCG was conducted with:

- Limited runway lighting
- No visible runway end lights
- Misalignment of PAPI lights

These factors significantly degraded the depth perception during landing and rollout. Aerodrome visual environment was a contributing factor, especially under tailwind and long-landing conditions.

2.1.9 Overall Initial Impression

The event most likely aligns with a runway overrun following a long landing, driven by a combination of human-factor elements, notably:

- Inadequate go-around decision-making
- Reduced monitoring effectiveness
- Visual illusion and limited runway cues
- Startle effect during landing phase
- Tailwind and energy management issues

The occurrence appears predominantly operational, and human-factors driven, rather than technical.

2.2 Flight Data Analysis

The analysis of the events leading to the accident began with a review of factual information and evidence. This included scrutinizing technical logs, relevant documents, manuals, Standard Operating Procedures (SOP), CVR/FDR data analysis, interviews, and witness statements, as well as expert consultations, medical and pathological reports, analysis of Safety Management System, and human factor analysis. Each of these aspects were reviewed and analyzed.

2.2.1 Review of Landing Phase

The crew inputs recorded in the flight data shows that the FO was PF for the final approach and landing of the flight, until after touchdown, when some input was recorded from the PIC's controls. The sequence of final approach to VNCG and the landing can be elaborated as follows, based on the analysis of the FDR and QAR data.

- According to the aircraft manufacturer documentation, the approach speed V_{app} is computed at 104 kts, considering the landing weight of 19,691 kg and a wind factor equal to zero since the wind reported at airport level is only a light tailwind.
- During final approach, the IAS increased from around 114 kts (10 kts above V_{app}) at around 600 ft AGL to around 118 kts (14 kts above V_{app}) at around 300 ft AGL. Meanwhile, the ground speed decreased from 138 kts to 134 kts.
- The IAS and GS values were around 127 kts and 135 kts as the aircraft reached 50 ft AGL near runway 10 threshold.
- The aircraft was at 50 ft AGL at around UTC 15:19:39. The left elevator position and the pitch angle value showed that the aircraft underwent a graduate pitch-up motion during the flare until pitch-down was commanded after around 15:19:50.

- Both engine torque values were at around 23% when the aircraft was above runway threshold, and was rapidly reduced to below 10% at 15:19:47. The left and right engine torque differential was at around 4%.
- From 50 ft AGL, it took approximately 13 seconds for the aircraft to reach around 1 ft AGL, and the radio height below 1 ft was recorded from around 15:19:55. During this phase, power levers remained between flight idle (FI) and the notch and were transiently (~2 seconds) retarded at FI while the aircraft was at 10 ft RA and 620 m from the runway 10 threshold before being moved above flight idle until the touchdown.
- Vertical acceleration (Vertical G) with a local maximum value of 1.17324G was recorded at 15:19:55. At UTC 15:20:00 the vertical acceleration fluctuated between 0.465942G to 2.04774G within the second. During which landing gears WOW switched from 'Ground' to 'Air' and then finally to 'Ground'. In the next two seconds, between 15:20:01 to 15:20:02, the vertical G varied between maximum and minimum values of 2.594712G and 0.328602G.
- The heading of the aircraft over the runway changed from approximately 103° near threshold at around 15:19:41, to 105° at around 15:19:55, and then to 98° at around 15:19:59. The heading at the end of the recorded data was approximately 79°. The aircraft overran the runway threshold at approximately 80 kts.

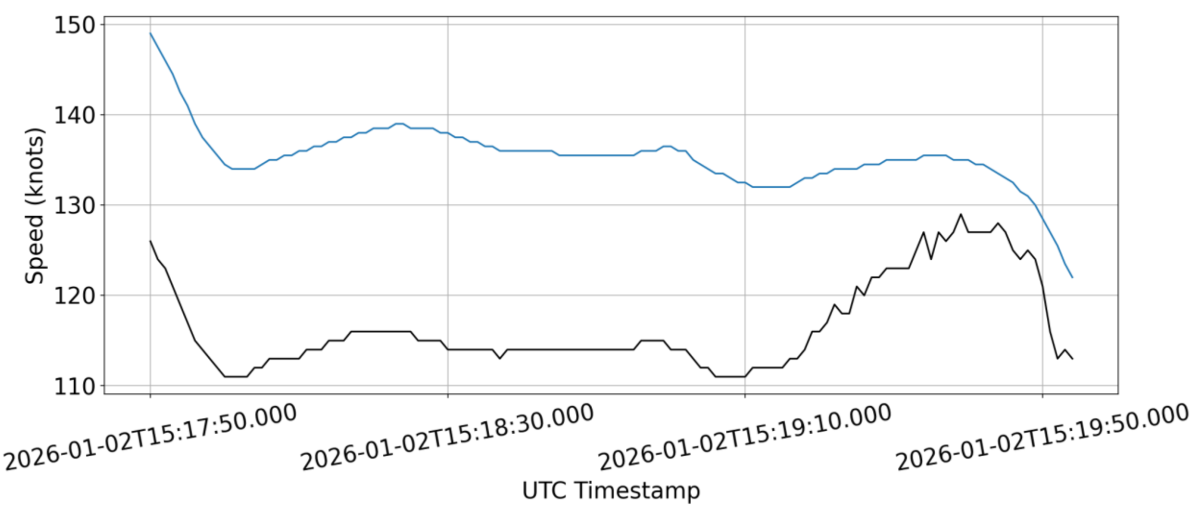

Figure 5: Ground speed (blue) and IAS (black) during final approach and landing phases of the event flight

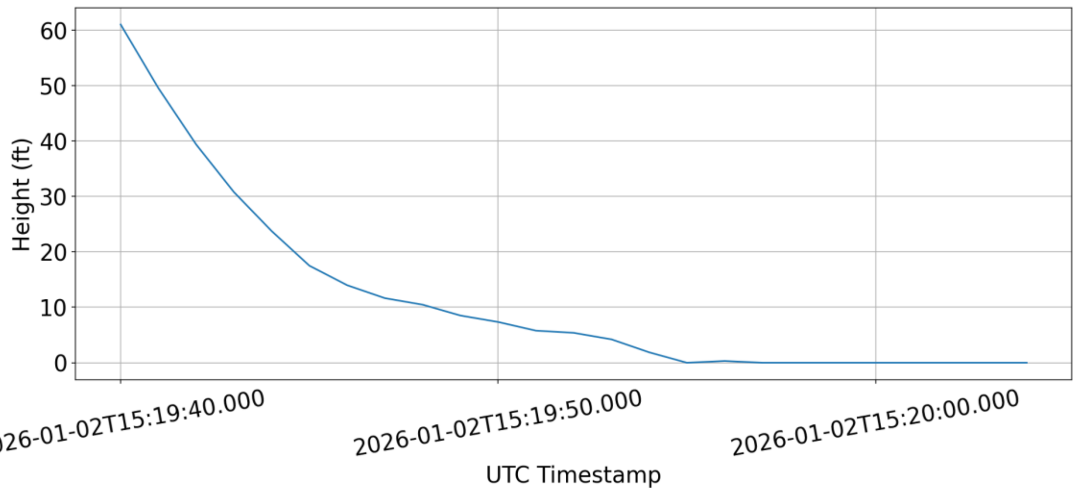

Figure 6: Radio height during the landing phase of the event flight

2.2.2 Buddha Air FDAP

Buddha air has been relying on an external software by Safran for its flight data monitoring and analysis program (FDAP). The software was hosted in its own internal server. The FDM team, under Buddha air's safety department, routinely downloaded the QAR data and uploaded it to the software for automated analysis. The analysis tools and formulas for event detection were programmed into the software remotely by the service provider.

The investigation team performed a detailed review of Buddha air FDAP, and the software analysis methods, and found several lapses and shortcomings that contributed to the current accident. The lapses have been described sequentially below:

1. The event detection thresholds were modified by Buddha air FDM team, through discussion among its internal FDM committee, which deviated from the recommended threshold values from ATR (reference: ATR FDM Brochure). The objective of these modifications was well-intended to make the operations more conservatively aligned with the SOP. However, the practice of modifications may have also led to arbitrary patterns in selecting or omitting computed parameters.
2. The location of touchdown zone was one of such computed parameters, which the FDM team reported as being frequently erroneously reported by the software. A review of the event detection method revealed that the touchdown location was not being computed based on multiple appropriate parameters, for e.g. vertical acceleration, and instead the WOW parameters were solely often taken at face value. This led to the event being triggered erroneously, leading to nuisance in reporting pattern. As a result, the FDM team had arbitrarily stopped including the touchdown location as a reported parameter.
3. Similarly, approach speed was also omitted from the monitored parameter because of inconvenience in the determination of the speed based on landing weight.
4. The FDM team was not guided properly on how to accurately compute the touchdown location and other crucial parameters. The FDM team could request for the inclusion of

new event detection logic or parameters and wait for approval from the service provider. However, feedback from the service provider was reported to be inadequate.

5. Due to the omission of the touchdown location as a monitored parameter, the FDM team at Buddha air was not detecting instances of long flare. Interviews with the Buddha air crew revealed that the instances of unstable approach and long flare was a common occurrence. The omission of detection of long flare did not adequately encompass the trend monitoring of approach and landing performance of the cockpit crew.
6. Despite performing unstable approaches, the instances of go around performed by the cockpit crew were not proportional, implying that touchdown was systematically practiced against go around.
7. The discussions in Section 2.2.1 demonstrates that WOW parameter and vertical acceleration both provide touchdown information but may not be consistently simultaneous. The FDM team that was relying on the QAR data also found the WOW parameter unreliable when used to trigger the touchdown location. While ATR's own FDM manual recommends that vertical acceleration is a parameter that could be referred to for touchdown indication, this was not taken into consideration by the Buddha air team. This information was also not raised by service provider when the operator had stopped monitoring long flared due to supposedly false FDM triggers indicated by referencing only the WOW as the touchdown parameter.
8. Similarly, the height of the aircraft above threshold during landing was also not monitored. This would have been an easy inclusion for monitoring for the FDM team and the software.

2.2.3 Overall Assessment of FDAP Implementation

The arbitrary omission of crucial parameters in the most critical phases of the flight meant that the Buddha Air FDM program had competency issues despite being established in a seemingly resourceful environment. The impression of the program as assessed by the investigation team was that the program had the correct intentions, but it was unserious in its approach in the way it handled critical tasks. Given that FDAP implementation is an ongoing process in Nepali operators, arbitrary functions may hinder the adequacy of these programs. Therefore, the assessment of Buddha Air's FDAP implementation showed that there's significant need for improvement in communication and competency aspects of the FDAP implementation.

2.3 Analysis of Emergency Light Failure

The investigation established that the aircraft emergency lighting system did not illuminate following the accident, resulting in complete darkness within both the cockpit and passenger cabin during the evacuation. Flight crew and cabin crew interviews consistently confirmed that no emergency lighting was available after the aircraft came to rest.

Figure 7 Emergency exit light selector in cockpit overhead panel and flight attendant panel

Examination of the cockpit overhead panel revealed that the EMER EXIT LT selector switch was found in the DISARM position instead of the normal ARM position required for flight operations. According to the Aircraft Flight Crew Operating Manual (FCOM), when the selector is in the ARM position, the emergency lighting system automatically illuminates whenever the DC Standby Bus voltage decreases below 18 V or both generators are lost. Conversely, selection of DISARM electrically isolates the emergency lighting system and prevents automatic activation following loss of aircraft electrical power.

To determine whether the lighting failure resulted from an electrical malfunction, continuity checks were conducted on the wiring between the Flight Attendant Panel, the overhead anti-icing/de-icing/signs panel, and the associated terminal block. All inspected circuits demonstrated satisfactory continuity, indicating that no wiring discontinuity or open circuit existed that could have prevented system operation.

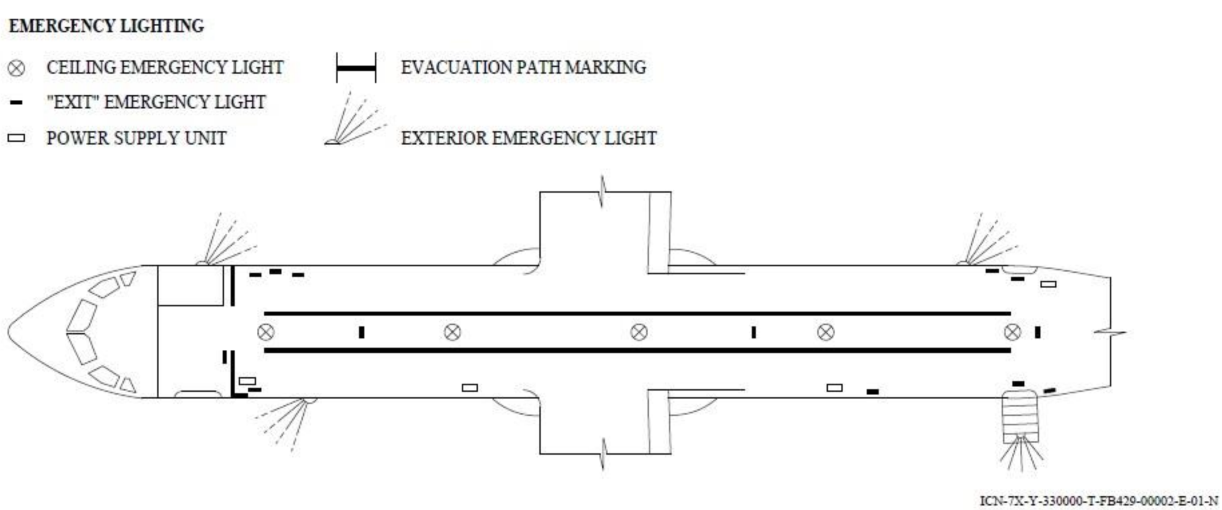

Figure 8 Emergency lights system in the ATR aircraft

The investigation also considered the possibility of failure of the Emergency Power Supply Units (EPSUs). Functional examination performed approximately 3.5 months after the occurrence found that all EPSU batteries were fully discharged. However, this condition was considered an expected consequence of the elapsed time following the accident and therefore could not be used to determine the battery state immediately after the occurrence. Consequently, no conclusion could be drawn that battery failure existed at the time of the accident. The battery condition observed during the examination should therefore not be considered a causal factor.

The emergency lighting system incorporates an independent override function through the cabin attendant panel. This feature enables the cabin crew to manually energize the emergency lighting regardless of the cockpit switch position by pressing the guarded EMERGENCY LIGHT pushbutton. During interview, the cabin attendant stated that, owing to the stressful circumstances following the accident, she did not operate the override switch. As a result, no manual activation of the emergency lighting system was attempted.

The available evidence indicates that the absence of emergency lighting was not attributable to a system hardware malfunction but resulted from the emergency lighting system having been left in the DISARM position before the occurrence. Consequently, when normal aircraft electrical power was lost following the accident, the automatic activation logic was inhibited and the emergency lights did not illuminate. The failure to manually activate the system from the cabin attendant panel represented a lost opportunity to restore emergency illumination during the evacuation.

The complete loss of emergency lighting likely increased the difficulty of evacuation by reducing visibility inside the passenger cabin during an emergency. Although the aircraft was equipped with photo luminescent floor path markings, the absence of illuminated exit signs and ceiling emergency lights would have degraded passengers' ability to rapidly identify exits and move safely through the cabin, particularly under conditions of stress and reduced visibility.

The investigation determined that the emergency lighting system failed to illuminate because the cockpit EMER EXIT LT selector had been positioned to DISARM, which inhibited automatic activation following the loss of aircraft electrical power. Electrical continuity checks found no evidence of wiring defects, and the discharged condition of the emergency batteries observed during post-accident examination could not be considered representative of their condition at the time of the occurrence because the examination was conducted approximately three and a half months later. The cabin attendant did not utilize the available manual override function during the evacuation, further contributing to the absence of emergency lighting.

Although the FO asserted that he cycled the emergency light switch between ON and OFF several times after the aircraft came to a rest, this claim could not be substantiated. Post-impact photographs conclusively showed the selector in the DISARM position, and subsequent continuity testing confirmed the electrical circuitry was fully functional.

2.4 Analysis Engine Shut-Down Failure

Following a runway overrun resulting in substantial structural deformation to the lower cockpit section of 9N-AMF, the flight crew executed emergency shutdown procedures for both engines.

While Engine 1 responded normally and shut down immediately, Engine 2 continued running for approximately 10 minutes post-impact.

Physical wreckage examinations, systematic wiring continuity tests, and flight data analysis were conducted to isolate the exact mechanical and electrical failure modes.

2.4.1 Design of the Fuel Isolation System

Under standard emergency operating parameters, the fuel delivery to the engine nacelle is controlled via two independent, redundant control paths:

1. **Mechanical Control Path:** The cockpit Condition Levers (CL) are mechanically linked via control runs and cables to the Hydro-Mechanical Unit (HMU), where retarding the CL to the **FUEL SO** (Fuel Shutoff) position mechanically isolates the high-pressure fuel supply.

2. **Electrical Control Path:** Deploying the overhead fire handle closes an electrical circuit, routing 28VDC electrical power via dedicated circuit breakers (CBs) to a dual-motor Low-Pressure (LP) fuel shutoff valve actuator, forcing the valve closed. For the right engine the power supply for LP valve motor is from:

   (a) 28 V DC BUS2

   (b) 28 V EMER BUS

Figure 9 Indicative components for engine power and other engine control functions

2.4.2 Mechanical Control Path Evaluation

Physical examination of the cockpit control revealed that both Condition Levers were jammed and locked tightly in the **AUTO** position. The crushing forces sustained by the lower cockpit structure during the runway overrun severely deformed the internal mechanical control beneath the cockpit floor. This structural binding physically prevented the flight crew from retarding the Condition Levers to the **FUEL SO** position, completely disabling the primary mechanical method of engine shutdown.

2.4.3 Electrical Control Path and Wiring Isolation Analysis

Since the mechanical system was jammed, the electrical fire handle circuit became the sole remaining method to command the LP fuel valve closed at the front wing spar. Following the technical troubleshooting protocols provided by the aircraft manufacturer (ATR), continuity and electrical isolation tested on the wreckage circuits. These tests showed a major electrical failure in the wires leading up to the overhead fire handle panel:

Test Path	Troubleshooting Step	Discovered Condition	Analysis / Impact
Path 1	Between CB 2QG and Fire Handle 8WD (Conn A, Pin 13)	Normal continuity, but NOT isolated. CB 2QE is short-circuited to A/C ground.	The primary power supply rail upstream of the fire handle was grounded out, resulting in an immediate voltage collapse.
Path 2	Between Fire Handle 8WD (Conn A, Pin 40) and Actuator 10QG (Conn A, Pin C)	Normal continuity and isolated.	The downstream wiring run connecting the fire handle assembly to the primary actuator motor was undamaged.
Path 3	Between CB 4QG and Fire Handle 8WD (Conn B, Pin 3)	Normal continuity, but NOT isolated. CB 4QG is short-circuited to A/C ground	The redundant power supply rail upstream of the fire handle was grounded out, disabling the secondary electrical source.
Path 4	Between Fire Handle 8WD (Conn B, Pin 16) and Actuator 10QG (Conn B, Pin C)	Normal continuity and isolated.	The downstream wiring run connecting the fire handle to the secondary actuator motor was intact.

2.4.4 Physical Inspection of the LP Valve

Visual inspection of the Engine 2 LP fuel shutoff valve assembly revealed that the valve mechanism was seized at an intermediate, mid-transit position. The mechanical position indicator was found resting between the fully Open ('O') and fully Closed ('F') markings, confirming the valve failed to complete its required angular travel.

2.4.5 Failure Sequence

Based on the physical findings, electrical tests, and recorded aircraft data, the failure sequence developed as follows:

1. **Impact and Structural Crushing:** The aircraft overran the runway, causing severe upward and rearward crushing of the lower fuselage and cockpit. This structural displacement

crushed the primary electrical wire bundles routed behind the main instrument panels and circuit breaker panels.

2. **Hard Short-Circuits:** The structural deformation pinched the live power feed lines coming from circuit breakers **CB 2QG** and **CB 4QG** directly against the metallic airframe structure, creating an immediate, hard short-circuit to aircraft ground.
3. **Fire Handle Activation:** When the flight crew pulled the engine fire handles, the required 28VDC electrical current could not be delivered downstream to drive the dual-motor LP valve actuator because the source voltage had already collapsed upstream due to the ground shorts.
4. **Intermediate Valve Stalling:** Deprived of steady, nominal operating voltage, the LP valve actuator motors received either a brief, heavily degraded electrical pulse or lost power at mid-transit, causing the valve to stall and seize in a partially open position.
5. **Sustained Engine Operation:** Because the LP valve remained partially open, a restricted but continuous stream of fuel is feeding to Engine 2. Flight Data Recorder (FDR) data confirms that the low-pressure rotor speed (NL) stabilized between **57% and 70%** for a duration of approximately 10 minutes, proving that steady combustion was occurring.

Engine 2 failed to shut down post-impact due to a catastrophic, dual-path system failure caused by impact-induced structural damage. The primary mechanical shutdown path was disabled because the Condition Levers were jammed by deformed control runs. Simultaneously, the electrical backup path lost its power integrity because the 28VDC power supply lines (via CB 2QG and 4QG) suffered direct short-circuits to the aircraft ground. Consequently, the Engine 2 LP fuel valve stalled in an intermediate position, allowing fuel delivery to run the engine continuously.

Based on the available evidence, the precise reason for the shutdown of Engine No. 2 could not be conclusively established. Although the flight crew reported that the engine shut down after several circuit breakers (CBs) had been pulled, the investigation found no technical evidence to indicate that isolating electrical power through CB removal would directly interrupt fuel supply to the Hydro-Mechanical Unit (HMU) or cause an immediate engine shutdown.

The investigation considers it most probable that the eventual shutdown of Engine No. 2, approximately 10 minutes after the aircraft came to rest, resulted from fuel starvation rather than from the electrical isolation itself. The partially closed low-pressure (LP) fuel valve likely restricted fuel flow to the engine, while the simultaneous loss of aircraft electrical power rendered the electrical fuel pumps inoperative. Under these conditions, the Engine Jet Pump was required to draw fuel against insufficient inlet pressure, resulting in severe cavitation. The consequent reduction in fuel delivery pressure is considered to have fallen below the minimum operating requirement of the Hydro-Mechanical Unit (HMU), ultimately causing the engine to shut down due to fuel starvation.

2.5 Human Factor Analysis

2.5.1 CVR Readout and In-person interview

The following analysis is based on the CVR readouts and in-person interviews.

Communication & Situational Awareness

- ***Landing clearance timing:*** At VNCG, landing clearance for BHA 901 was issued approximately five minutes prior to touchdown, which raises questions regarding whether it is standard practice for ATCOs to provide landing clearance when the aircraft is not in visual contact. Furthermore, both PF and PM reported that they did not have the runway in sight at the time clearance was given, indicating a lack of a shared mental model between ATC and the flight crew, which may have contributed to reduced situational awareness.

- ***Taxi clearance for Yeti 922:*** At VNCG, the ATCO issued taxi clearance for Yeti 922 without confirming the landing status of BHA 901, which indicates that the controller may not have had full situational awareness of BHA 901's position. Since the taxi clearance was issued after the runway excursion had occurred, the ATCO's inadequate actions had severe implications for runway and ground safety coordination.

Task saturation:

- ***Music listening:*** It was observed that the PM listened to the radio/music during flight, with the radio/music remaining on until aircraft touchdown. The PF, flying with the PM for the first time, followed this informal practice by switching the music on and off five times during the flight, though the PF turned it off before the approach at VNCG.

  While Buddha Air's SOP does not explicitly prohibit such practices, its systemic presence suggests that informal cockpit culture can override SOP discipline.

  From a human factors perspective, music or similar distractions may mask ATC or intra-cockpit communication, thereby increasing the risk of missed calls and task saturation, while reducing situational awareness during critical phases of flight.

- ***Sterile cockpit:*** Buddha Air's SOP requires a sterile cockpit below 10,000 ft; however, observations indicated that non-essential conversations occurred during this phase of flight.

  The informal practice of engaging in non-operational discussions in a sterile cockpit environment suggests erosion of SOP discipline. Distractions from non-essential tasks during critical phases of flight can compromise sterile cockpit standards, increase task saturation and reduce situational awareness.

Decision-Making:

- ***Buddha Air SOP:*** Interviews revealed differing interpretations among crew regarding who is authorized to call for and conduct a go-around, as well as when approach speed (Vref) should be maintained during approach.

  These inconsistencies indicate a systemic mismatch between SOPs and actual practice, suggesting unfamiliarity with the procedures outlined in the SOP. This lack of alignment resulted in inadequate reinforcement of go-around discipline and indicates normalization of deviance.

- ***Continuation of approach:*** The PM instructed the PF to continue the landing despite the aircraft floating approximately two-thirds down the runway, and the PF complied. This sequence reflects a reduced Aeronautical Decision-Making (ADM), influenced by the PM's acknowledged overconfidence in the PF's ability and the FO's limited assertiveness, likely shaped by cockpit authority gradient and cultural norms.

These dynamics appear to have led both crew members to place excessive confidence in each other's capabilities. The PF subsequently called 'go around' two seconds after touchdown; however, the first impact occurred four seconds later.

- ***Non-standard approach:*** The crew reported that go-arounds have only been practiced in simulators, while during actual flights, high approaches are typically corrected using elevated descent rates to achieve a safe landing.

  This practice suggests a systemic normalization of deviance, where informal techniques override standard procedures. Though the use of Flight Data Monitoring (FDM) and Line Operations Safety Audit (LOSA) could have helped detect and address such patterns both the FDAP and LOSA were ineffective to capture these issues.

Cockpit Gradient:

- ***PF taking over comms:*** At 14:52:26 UTC, during the flight, the PF volunteered to assume responsibility for radio communication, possibly to allow PM to rest. This action, combined with the FO's cultural tendency to defer to the PIC and the pronounced cockpit authority gradient reinforced by age and experience differences, reflected reduced assertiveness. The presence of an organizational culture in which FOs seek to maintain PIC satisfaction, and PICs expect such behavior, may have collectively undermined effective Crew Resource Management (CRM) and increased operational risk.

Fatigue & Stress:

- ***Nap:*** At 14:52:26 UTC, the PM appeared to experience a nap lasting approximately 4 minutes and 24 seconds, which may have reduced vigilance and monitoring effectiveness. As per CAA Nepal (CAAN) Flight Operations Requirements (FOR) 9.6.1.12, controlled rest on the flight deck is prohibited for flights of less than three hours.

  Observations indicate that instances of dozing (ढल्किने) among flight crews during flight, suggesting that cockpit safety culture may contribute to reduced alertness in certain circumstances. These behaviors appear to be associated with factors such as boredom and fatigue rather than intentional actions.

- ***Fatigue:*** As per CAAN FOR 9.6.2.3, flight time duty limitations have been adhered to; however, duty patterns that include multiple sectors, circadian disruption (graveyard shifts), extended ground delays at Kathmandu.

SOP and checklists:

- ***Checklist use:*** The checklist use within the airline is not consistently applied to 100% of items, with adherence estimated by crew at approximately 50% to 60% compared to simulator practice.

  These observations suggest that informal cockpit practices have eroded SOP discipline, leading to compromised checklist rigor. From a human factors perspective, this reduces redundancy and error-trapping capability and reflects a systemic issue in which organizational culture tolerates partial compliance.

2.5.2. Human Factors Analysis and Classification System (HFACS)

In addition, the Human Factors Analysis and Classification System (HFACS) was used to analyze the data. HFACS breaks down human error into four levels: Unsafe Acts, Preconditions for Unsafe Acts, Supervisory Factors, and Organizational Influences.

A. Organizational Influences

Resource Management

- The FDM team was insufficiently supervised in technical aspects related to determination of thresholds, calculations of exceedances, computed parameters, etc., despite having adequate technical resources.
- LOSA was unable to identify line operations deviances.

Organizational Culture

- Culture of deference to PIC, discouraging FO assertiveness.
- Informal tolerance of SOP violations (music, checklist shortcuts, sterile cockpit breaches).

Operational Process

- Training is adequate, but insufficient reinforcement of the go-around discipline.
- FDM is not fully leveraged to detect long landing/ unstabilized approaches.
- ATC procedures were not found robust in low-visibility conditions.

B. Supervisory Factors

Inadequate Supervision

- PM dozes mid-flight, tolerated within the culture
- Checklist discipline is not enforced consistently in line operations
- Listening to music during sterile cockpit period

Planned Inappropriate Operations

- National and organizational culture discouraged FO assertiveness in calling for and conducting a go-around.
- Informal acceptance of music listening in the cockpit.

Failure to Correct Known Problems

- PM admitted never performing go-arounds after being high on approach and floating over the runway: systemic normalization of unsafe practice.

C. Preconditions for Unsafe Acts

Situational Factors

- Quarterly tailwind
- Night operation

- Runway end lights
- Misalignment of PAPI
- ATCO's failure to issue missed approach instructions on time: although the aircraft remained high on approach and failed to touch down over a significant portion of the runway, the ATCO did not issue missed approach instructions.

Condition of Operators

- PM microsleeps, heavy breathing/yawning: fatigue.
- PF lacked night go-around experience, reducing confidence.
- PF is distracted by radio/music, task saturation from external transmissions.

Personal Factors

- Fatigue due to multiple sectors and ground waiting times.
- Boredom leading to dozing off mid-flight.
- High cockpit gradient: PF reluctant to be assertive, cultural tendency to "keep PIC happy".
- PM overconfidence in PF's ability, failure to intervene.

D. Unsafe Acts (Errors & Violations)

Decision Errors

- PF delayed the go-around call until after touchdown: poor ADM and lack of assertiveness.
- PM instructed continuation despite floating significantly down the runway: poor judgment, normalization of deviance.

Perceptual Errors

- The crew misjudged the remaining runway distance due to the limited runway end cues.

Routine Violations

- Safety culture likely normalized listening to music during flight and approach, even when not specifically permitted by SOP.
- Non-sterile cockpit below 10,000 ft.

2.5.3 HFACS Heat Map

HFACS Level	Issue	Severity	Systemic Spread	Risk Priority
1. Organizational Influences	Prolonged ground waiting time along with multiple sectors causing fatigue	**Medium**	Systemic	Medium Risk
	Informal tolerance of SOP breaches (music, sterile cockpit)	**Medium**	Systemic	Medium Risk

	FDM is not leveraged to detect unstable and floating approaches	**High**	Systemic	High Risk
2. Supervisory Factors	Checklist discipline is not enforced.	**Medium**	Systemic	Medium Risk
	Go-around culture is weak; the crew never performed it in the aircraft	**High**	Systemic	High Risk
3. Preconditions	Fatigue (PM microsleep, yawning)	**High**	Individual + systemic roster fatigue	High Risk
	High cockpit gradient, FO deference	**High**	Systemic (culture)	High Risk
4. Unsafe Acts	Delayed go-around, continuation after floating	**High**	Individual (PF/PM)	High Risk
	Music listening, non-sterile cockpit, checklist shortcuts	**Medium**	Individual but tolerated	Medium Risk

2.6 Aerodrome

The Aerodrome Safety Standards Department (ASSD) exercises continued regulatory oversight of certified aerodromes through a programme of scheduled and unscheduled inspections, compliance audits, and surveillance activities. These activities are intended to verify continued compliance with CAR-14, the approved Aerodrome Manual, and the conditions of the Aerodrome Certificate, and to monitor the implementation of corrective actions arising from identified deficiencies.

CAR-14, Part I specifies the design and operational requirements applicable to civil aerodromes open to public use in Nepal. Under the CAAN regulatory framework, public-use aerodromes serving aircraft with more than 30 passenger seats are required to hold an Aerodrome Certificate, while those serving aircraft with 30 seats or fewer are required to be registered with CAAN. Although the certification requirements differ, both certified and registered aerodromes are required to comply with the applicable provisions of CAR-14.

The investigation reviewed the Aerodrome Safety Standards Department (ASSD) unscheduled aerodrome safety inspection conducted at VNCG on 27–28 November 2025. The inspection identified a number of deficiencies affecting aerodrome infrastructure, visual aids, operational safety, maintenance, rescue and firefighting capability, emergency preparedness, and regulatory compliance. The significant findings are summarized below.

Aerodrome Infrastructure

- The runway strip dimensions did not comply with the requirements of CAR-14 Part I.
- Obstacle limitation survey had not been conducted, and no obstacle database had been established.

- The apron layout differed from the configuration published in the Aeronautical Information Publication (AIP).
- Frangibility requirements for equipment installed within the runway strip had not been fully addressed.
- A sentry post was located within the runway strip north of Runway 10.
- The runway pavement exhibited localized undulations and surface deterioration requiring maintenance.
- Foreign Object Debris (FOD) was observed within movement areas.

Visual Aids and Airfield Lighting

- The Precision Approach Path Indicator (PAPI) for Runway 10 was not aligned with the runway aiming point markings.
- The Runway Threshold Identification Lights (RTIL) for Runway 28 were unserviceable.
- The aerodrome beacon was unserviceable.
- Obstacle lights installed on the overhead tank and airside mast were unserviceable.
- Several mandatory and information signs were not illuminated.
- No formal system had been established to monitor, inspect and record the serviceability of visual aids and airfield lighting.
- Non-standard white markings were observed on the fire link road.

Aerodrome Operations

- A Runway Surface Condition Code (RWYCC) reporting system had not been established.
- No standardized checklist had been developed for routine inspection of movement areas.
- A comprehensive aerodrome maintenance programme had not been developed or implemented.
- A Runway Safety Team had not been established.
- Vehicle control measures for operations on or near the movement area were ineffective.
- Road holding position markings and associated signs were not provided on the fire link road leading to the runway.
- Security lighting within the airside area was inadequate.
- Bird and wildlife strike records were not being maintained or reported to the Aerodrome Safety Standards Department.
- A formal bird and wildlife hazard management programme had not been established.
- No mechanism existed to monitor or control the height of buildings and structures surrounding the aerodrome in accordance with obstacle limitation surface requirements.

Security and Access Control

- Access control measures to prevent unauthorized entry into the airside and movement areas were ineffective.
- Perimeter fencing was not fully intact, and sections were obstructed by vegetation.
- Personnel demonstrated inadequate awareness of unauthorized access prevention requirements.

Rescue and Fire Fighting Services (RFFS)

- A difficult terrain assessment for Rescue and Fire Fighting operations had not been conducted.
- The Airport Emergency Plan (AEP) and Removal of Disabled Aircraft (RODA) Plan were not available.
- The required Rescue and Fire Fighting protection level was not provided for the aerodrome category.
- Daily drill records did not accurately reflect actual drills conducted.
- A preventive maintenance programme for fire vehicles had not been established.

Safety Management and Training

- Staff had not received adequate recurrent training to effectively perform assigned operational safety responsibilities.
- Structured competency-based training programmes had not been fully implemented.

The investigation observed that the deficiencies identified by the ASSD during its unscheduled aerodrome safety inspection remained outstanding at the time of the occurrence. This indicated that corrective actions arising from the inspection had not been effectively implemented or verified prior to the accident.

The investigation identified that several deficiencies observed at Chandragadhi Airport were not in compliance with the applicable requirements of CAR-14, Part I. These deficiencies included non-compliances relating to aerodrome infrastructure, obstacle management, visual aids, aerodrome operations, rescue and firefighting services, maintenance, and safety management.

The current investigation additionally identified that inset runway-end lights had reportedly become obscured due to repeated overlay works. These deficiencies reduced available operational safety margins during night landing operations. PAPI alignment, runway end light and obstacle analysis were not reported by any operator.

The investigation identified that:

- Aerodrome-specific night operation risks were not adequately briefed to the crew
- Specific emphasis was lacking on:
  - Limited runway lighting
  - Absence of runway end and centerline lights
  - Visual illusion risk during night landings
  - Tailwind sensitivity for landing distance

This reduced the crew's shared situational awareness and preparedness to recognize and react decisively to deteriorating landing conditions.

3. Conclusion

3.1 Findings

1) The crew were qualified and certified in accordance with the prevailing regulations of the CAAN.
2) The duty time of the crew was within the prescribed limit prior to the flight, and they had adequate rest period.
3) The aircraft possessed a valid certificate of airworthiness and registration at the time of the occurrence.
4) The aircraft was maintained as per the airworthiness requirements. No maintenance work was found to be overdue, and all maintenance records had been maintained properly.
5) There was no evidence of aircraft control systems, structural, or power-plant failures before the ground contact. All known damage to the aircraft occurred after the ground impact.
6) At the time of arrival, the weather was fair with 3 km visibility and the wind was calm.
7) Both pilots were medically fit.
8) This was the crew's first operational pairing.
9) Non-sterile cockpit activity occurred during flight.
10) Monitoring effectiveness degraded during approach.
11) The approach became unstable below stabilized criteria.
12) The aircraft floated and touched down approximately two-thirds down the runway 10.
13) No timely go-around was initiated.
14) Multiple aerodrome visual-aid deficiencies existed, which were not reported by the airline operators.
15) Organizational safety oversight weaknesses existed on the sides of both the operators (Aerodrome and Buddha Air) and the regulator.
16) No primary technical malfunction caused the occurrence.
17) The operator had an ineffective FDM monitoring and inadequate unstable approach management.
18) The aerodrome service provider had not addressed unresolved aerodrome deficiencies and had weak runway safety governance.
19) There was a lack of oversight of the operators' FDM program by CAAN, leading to

arbitrary practices.

20) The follow-up of inspection findings of non-certified aerodromes were not specified, and even the findings of the inspection that were significant were classified under observation.

21) The aerodrome had not conducted an adequate hazard identification leading to unmitigated operational risks.

3.2 Cause of the Accident

The cause of the accident was the failure to go-around on an unstabilized approach.

3.3 Contributing Factors

The contributory factors to the accident are:

1. Failure to adequately implement flight operations SOP by Buddha air.
2. Failure to adequately identify, monitor and rectify instances of long flare and delayed touchdown practices by the flight data monitoring team.
3. Runway end lights were not visible at VNCG runway 10.
4. No requirements regarding co-pilot's clearance for night landing.
5. Degraded CRM such as communication, situational awareness, decision-making, callouts, monitoring, assertiveness, and non-sterile cockpit environment.

4. Safety Recommendations

4.1 All Operators

1. All operators both fixed wing and rotorcrafts should develop a Flight Data Monitoring Program according to their present capacity.
2. A management of change (MOC) concept should be applied to all FDM programs, whereby FDM programs shall undergo an acceptance stage under CAAN and any significant changes being incorporated into the existing accepted FDM program should also be documented and accepted by CAAN before the changes are implemented.
3. Operators should develop mechanism to ensure their operational SOP is being followed.
4. Crew should report aerodrome deficiencies to the SMS of their respective airlines.
5. Establish policy regarding night landings approval for the FOs.
6. Ensure that all parameters in the FDR are recorded properly, else the parameters should be reported as invalid for further corrective action.

4.2 Buddha Air Pvt. Ltd.

1. Buddha Air should review the effective implementation of its FDM program and revisit its LOSA program.
2. The crew of Buddha Air should ensure adherence to operational SOP, and the company should devise a robust monitoring mechanism.

4.3 Civil Aviation Authority of Nepal

1. CAAN should implement a robust aerodrome inspection audit program of all non-certified aerodromes, and scale and deploy SMS across all Nepalese airports based on operational capacity.
2. CAAN should develop capability for oversight of FDM programs of operators.
3. CAAN should enhance monitoring activities and strengthen its oversight function.

4.4 Ministry of Culture, Tourism and Civil Aviation

1. An accident investigation bureau should be formed to perform accidents, serious incidents and other safety related investigations.
2. The ministry should immediately move towards functional separation of CAA Nepal's regulatory and service provider roles.