



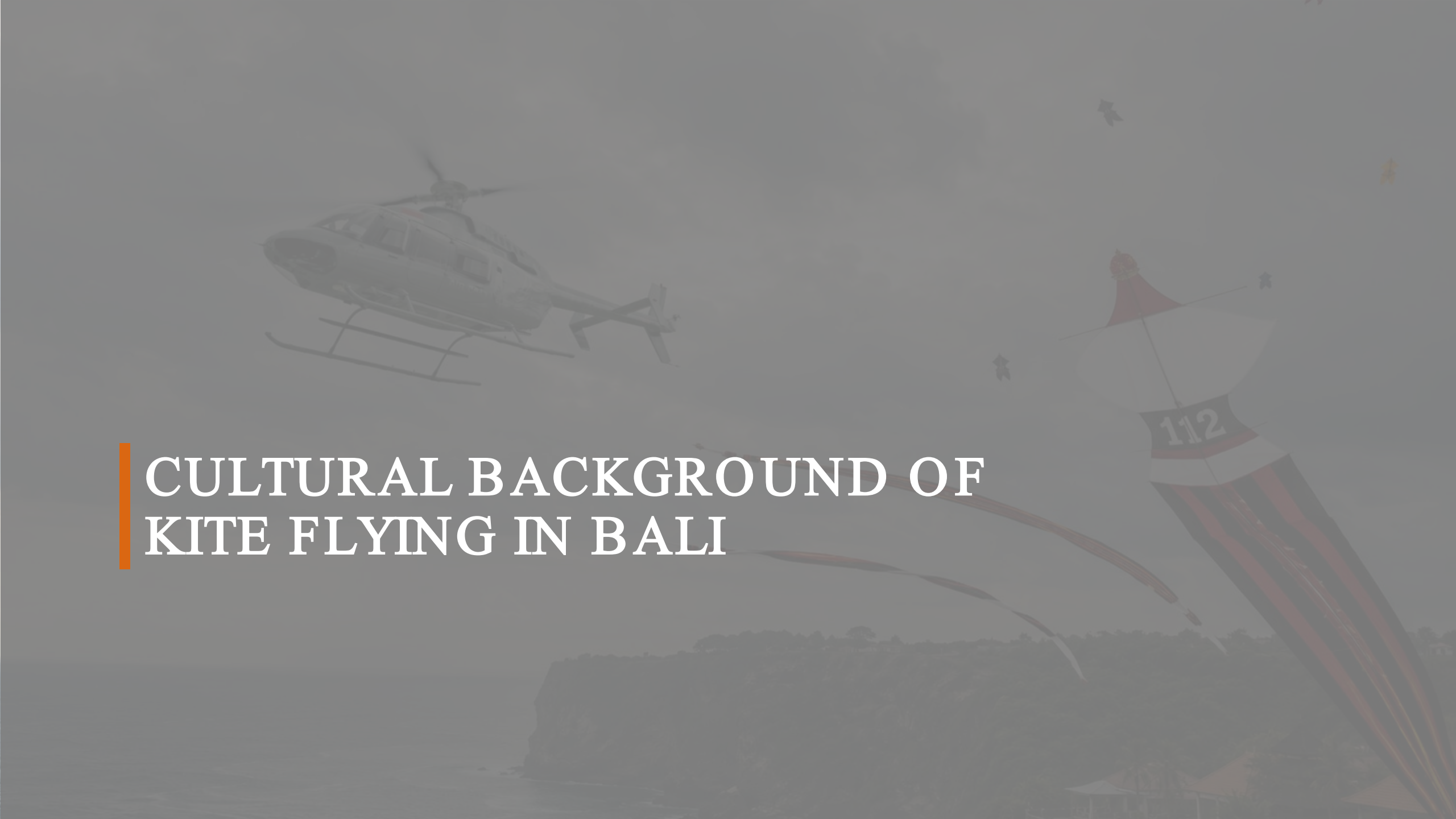
THE POWER OF COLLABORATION: SHARING THE SKIES AND THE KITE STRIKE THREAT IN BALI

VAI Safety Conference - 27 May 2026

Introduction

- Bali's skies host traditional kite flying during the windy season
- Cultural heritage and modern aviation coexist in limited airspace
- Shared use creates unique safety challenges



The background image is a faded, grayscale-style photograph. It depicts a helicopter in flight on the left side of the frame, angled towards the left. On the right side, a large, traditional Balinese kite (Gending) is shown in flight. The kite has a white body with a red stripe and the number '112' on it, and long, flowing tails. The background also shows a dark, silhouetted coastline with trees and buildings, and a body of water at the bottom left.

CULTURAL BACKGROUND OF KITE FLYING IN BALI

History of Traditional Kite Flying



- Centuries-old Balinese Hindu tradition
- Symbolises gratitude, harmony, and blessings
- Strong cultural and community significance

Major Kite Types & Festivals



Bebean
(fish-shaped)



Janggan
(dragon-tail)



Pecukan
(leaf-shaped)

Organised festivals with large community participation

Competition Incentives & Height Risk



In organised competitions:

- Prizes awarded for **build size**
- **Height achieved** is also a key judging criterion

Can unintentionally encourage:

- Higher altitude kite flying
- Stronger lines and build materials

Leads to overlap
with low-level helicopter operations

Visibility Challenges: Kite Size Matters

Small Informal Kites

Smaller informal kites are harder to detect due to their size and thin, non-reflective strings, reducing pilot visibility.

Large Competition Kites

Larger competition kites, often flown by organized teams, are more visible and easier for pilots to detect.

Visibility Risks and Safety

Reduced kite visibility increases late-detection risk during low-level flight, requiring early awareness and route planning.



A faded background image showing a helicopter in flight on the left and a parachute with the number '112' on the right, set against a cloudy sky and a coastal landscape with cliffs and buildings at the bottom.

HELICOPTER OPERATIONS IN BALI

History of Helicopter Aviation in Bali

- Commercial operations began in 1992
- Growth of tourism and offshore support flying
- Increasing focus on safety systems and risk management



The Airspace Conflict



High-altitude kites overlap with tour flight paths; regulations exist but are inconsistently followed



LESSONS FROM THE 2024 KITE STRIKE EVENTS

2024 Event: Overview



Bell 505 crashed July 19, 2024.
Helicopter took off 2:33 PM, crashed
2:37 PM



Low-level coastal operation



Encountered heavy kite string shortly
after departure



All occupants survived.

Events Highlighting the Risk

- Multiple kite—aircraft entanglement events recorded
- Highlighted an escalating shared-airspace hazard
- Prompted coordinated safety attention



Helicopter
crashed in Pecatu
village, South Kuta, Bali





Safety Learning and Preventative Focus

Focus on Safety Learning

Emphasizing learning from incidents rather than blaming individuals fosters a Just Culture for improvement.

Key Observations on Kite Safety

Noting kite string strength, visibility, and difficulty detecting smaller kites highlights important safety challenges.

Systemic Prevention and Risk Awareness

Understanding seasonal and location-based risks supports systemic prevention and early engagement.



Critical Event Sequence

String entanglement led to:

- Loss of rotor efficiency
- Unrecoverable flight condition

Pilot conducted an emergency landing

Immediate local response supported rescue

Safety Learning

Highlighted hazards:

- String strength
- Limited visual conspicuity
- Shared altitude bands

Reinforced need for **systemic prevention**



The background is a faded, artistic illustration. On the left, a helicopter is shown in flight. On the right, a rescue hoist is deployed from a platform, with a person visible in the basket. The hoist has the number '112' on it. Below these elements is a dark, silhouetted cliff overlooking a body of water. The overall tone is somber and professional.

INVESTIGATION & REGULATORY RESPONSE

Regulatory & Government Response

DGCA actions include:

- Enhanced oversight and monitoring
- Community engagement
- Review of operational risk areas



Local government:

- Signage
- Public education initiatives



GOVERNOR OF BALI
DECREE OF THE GOVERNOR OF BALI
NUMBER 649 /03-G/HK/2024

CONCERNING
TASK FORCE FOR REGULATION, EMPOWERMENT, AND LAW ENFORCEMENT ON
KITES, BALLOONS, LASERS, AND OTHER FLYING OBJECTS IN THE BALI FLIGHT
OPERATIONS SAFETY ZONE

BY THE GRACE OF GOD ALMIGHTY
THE GOVERNOR OF BALI,

Considering:

- a. That in order to effectively implement regional legal products related to controlling objects that pose risks to flight safety, such as kites, balloons, lasers, and other flying objects in the Bali Flight Operations Safety Zone (KKOP), which requires planning, organizing, implementation, and supervision in a systematic, strategic, measurable, and firm manner;
- b. That to achieve the objectives as mentioned in point a, **it is necessary to establish a Task Force for the Regulation, Empowerment, and Law Enforcement on Kites, Balloons, Lasers, and Other Flying Objects in the Bali Flight Operations Safety Zone**, involving the Bali Provincial Government, Regency/City Governments, and vertical institutions within the Bali Provincial Government environment and related stakeholders;
- c. That based on the considerations as mentioned in points a and b, it is necessary to stipulate a Governor's Decree concerning the Task Force for the Regulation, Empowerment, and Law Enforcement on Kites, Balloons, Lasers, and Other Flying Objects in the Bali Flight Operations Safety Zone;

Referring to:

1. Law Number 1 of 2009 on Aviation;
2. Law Number 23 of 2014 on Regional Government;
3. Law Number 15 of 2023 on the Province of Bali;
4. Government Regulation Number 6 of 1988 on Coordination of Activities of Vertical Agencies in the Regions;
5. Government Regulation Number 12 of 2019 on Regional Financial Management;
6. Regional Regulation of Bali Province Number 9 of 2000 on the Prohibition of Flying Kites and Similar Games at Ngurah Rai Airport and Surrounding Areas;
7. Regional Regulation of Bali Province Number 10 of 2016 on the Formation and Structure of Regional Apparatuses;

National Safety Investigation – KNKT



- Indonesian Government tasked **KNKT** to examine recent kite-strike occurrences
- KNKT is Indonesia's independent transport safety investigation body
- Aligned with **ICAO Annex 13** principles
- Focused on safety learning and prevention

From Investigation to Action

KNKT:

- Does **not** assign blame or liability
- Issues **safety recommendations only**

Recommendations:

- Carry professional and technical weight
- Inform **DGCA** oversight and guidance

Supports a **Just Culture** approach



The background is a faded, artistic illustration. On the left, a helicopter is shown in flight. On the right, a large rescue parachute is deployed, with the number '112' visible on its canopy. The parachute has a red and white striped pattern. Below these elements, a dark, silhouetted landscape with a cliff and some buildings is visible against a light sky.

COLLABORATION & SHARED RESPONSIBILITY

Community Collaboration

Kite community leaders engaged on:

- Specific kite zones
- Altitude awareness



Improved dialogue between:

- Communities
- Authorities
- Aviation operators

Air Operators Collaboration

Collaborative safety actions:

- Improved routing awareness
- Enhanced pilot briefings
- Seasonal operational risk assessments



- Coordination with local communities and stakeholders
- Safety engagement in schools & kite zones
- Promotion of shared responsibility between aviation operators and local communities

A helicopter is flying in the upper left, and a large parachute with the number 112 is descending in the upper right. The background shows a coastal landscape with cliffs and buildings.

SHARING THE SKIES

Key Message – Sharing the Skies

Cultural heritage and aviation safety
are **not incompatible**

Risk is best reduced through:

- Collaboration
- Awareness
- Mutual respect

Safety improves when **all airspace users
work together**

Geographical Choke Points

Concentration of Kite Activity

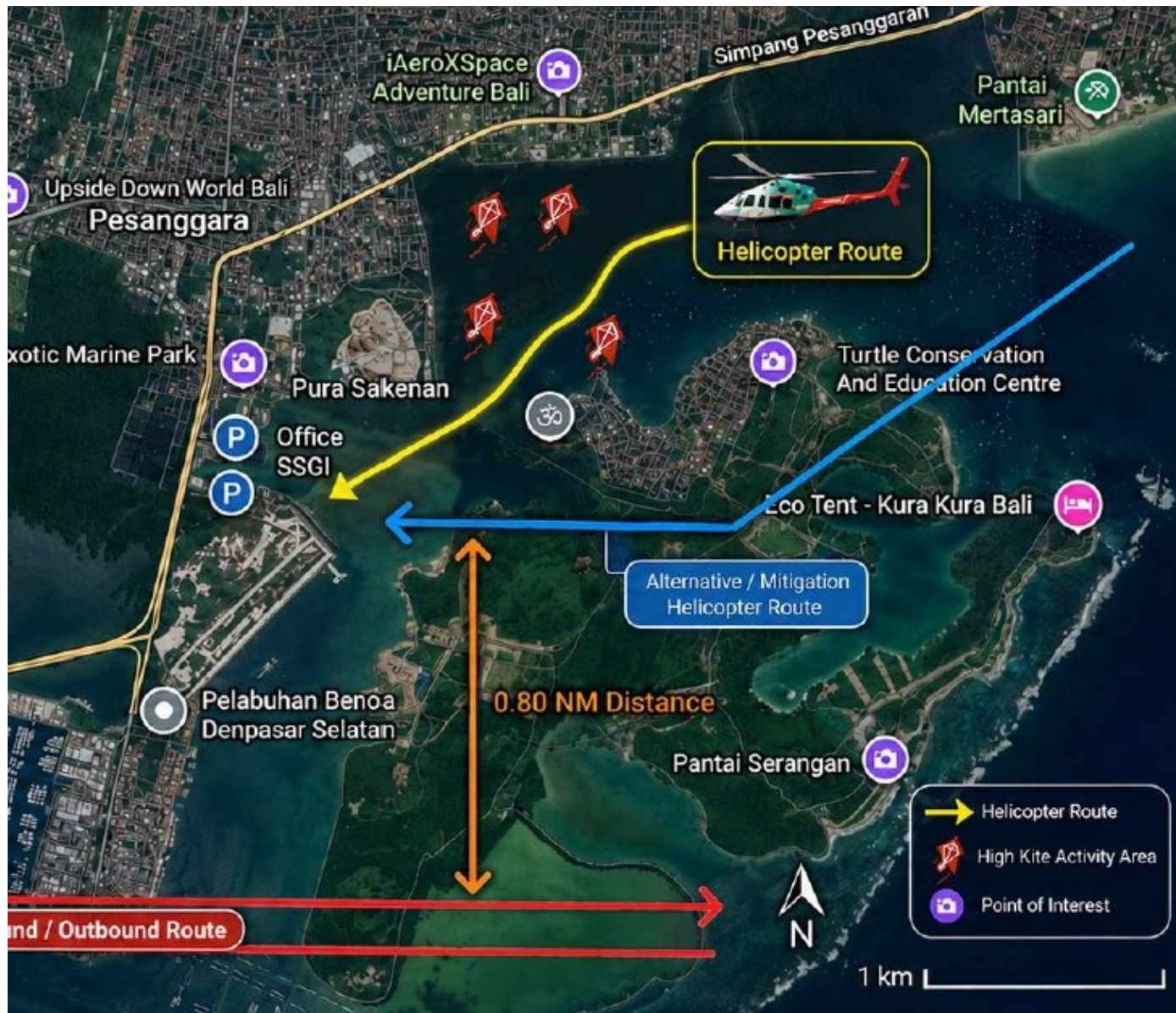
Kite flying is concentrated in specific areas in Bali, especially around Serangan and Turtle Island, increasing localized activity.

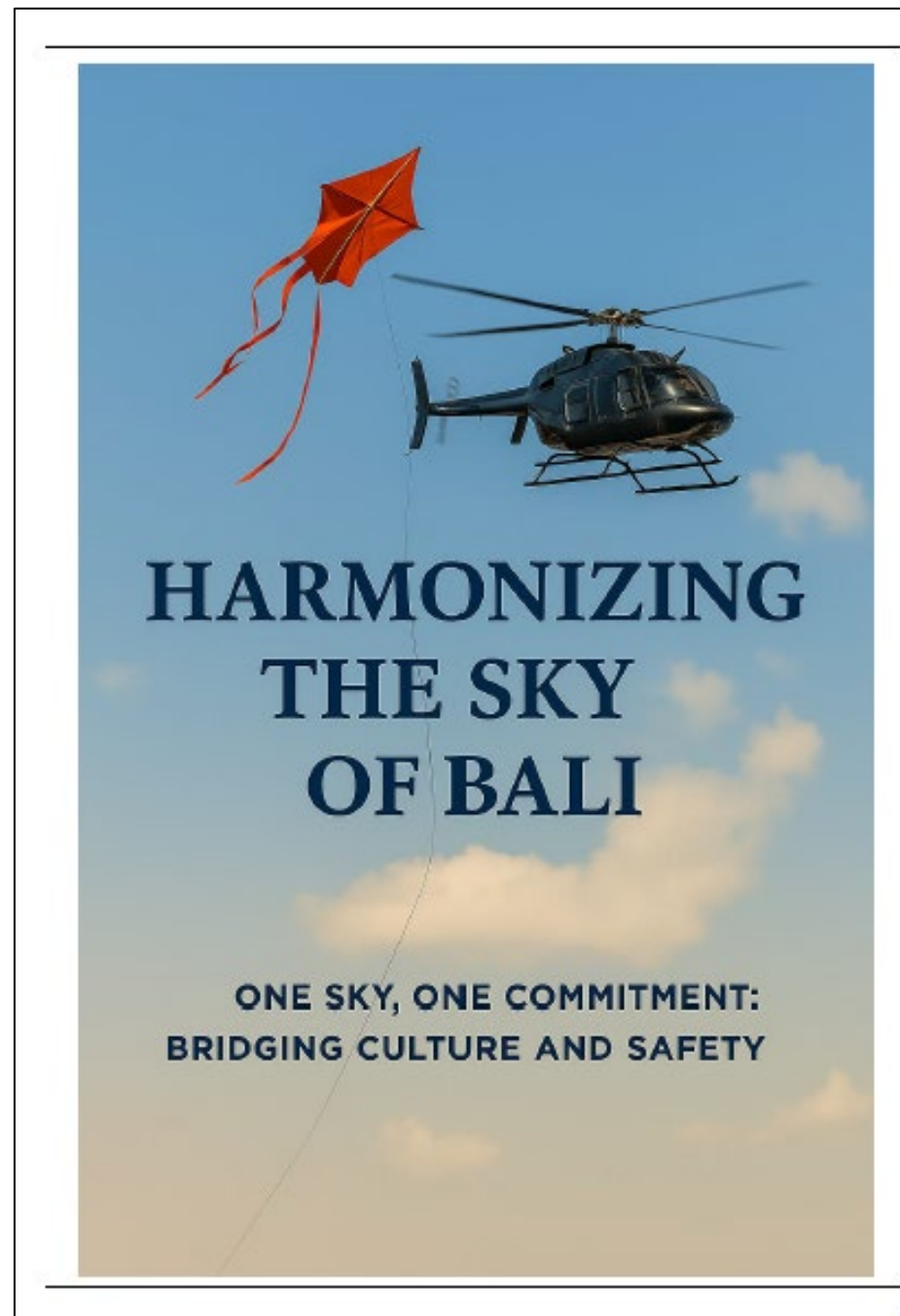
Helicopter Flight Routes

Helicopter climb, descent, and routing paths coincide with kite activity areas, creating significant airspace choke points.

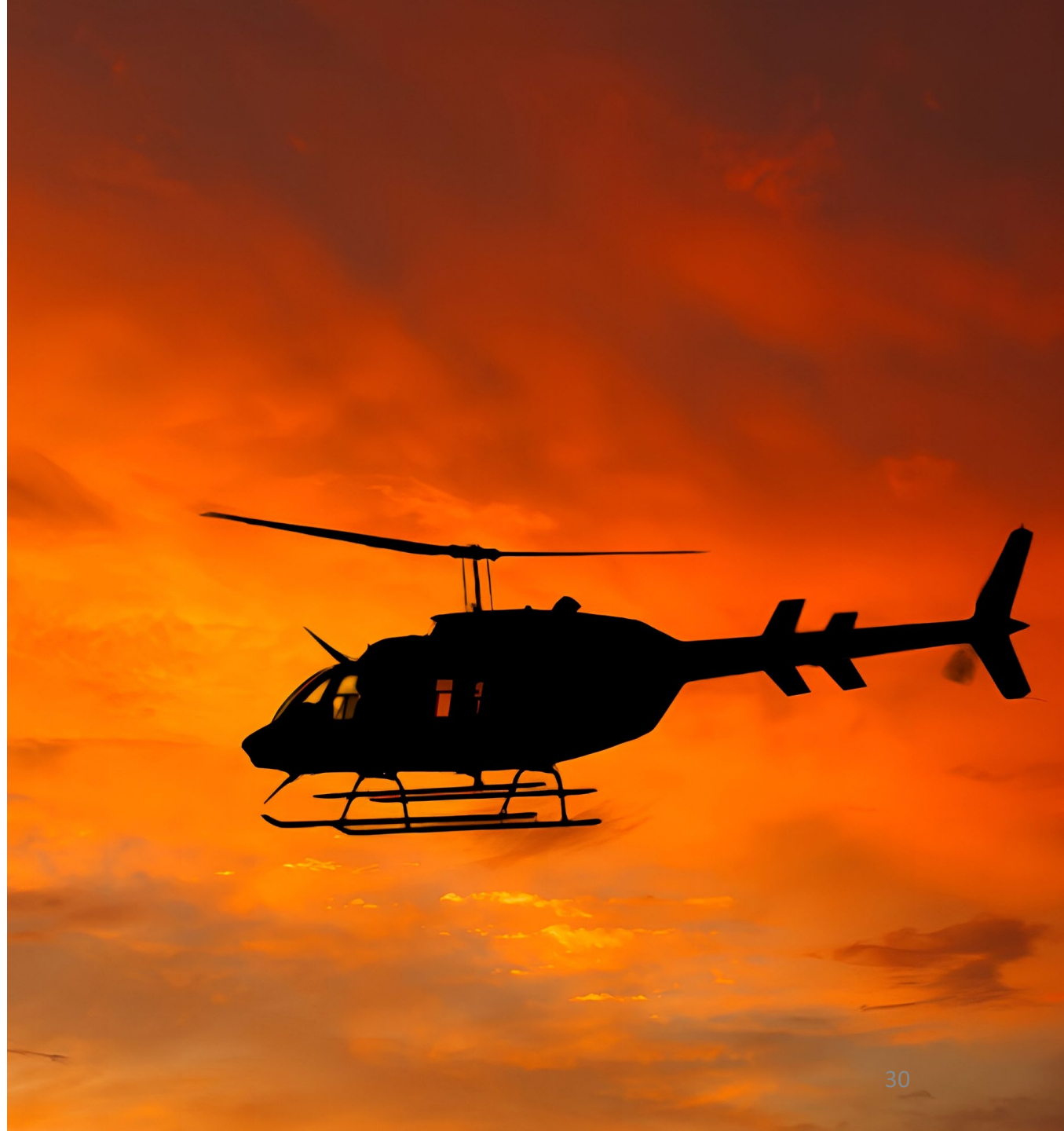
Risk Assessment Importance

The overlap of kites and aircraft necessitates focused risk assessments, seasonal planning, and community engagement to ensure safety.





Questions and discussion





THANK
YOU