60th CONFERENCE OF DIRECTORS GENERAL OF CIVIL AVIATION ASIA AND PACIFIC REGIONS

Sendai, Japan
28 July - 1 August 2025

AGENDA ITEM 3: AVIATION SAFETY

TOWARDS A UNIFIED AVIATION SAFETY DATA FRAMEWORK: A CIVIL-MILITARY PERSPECTIVE

(Presented by Bangladesh)

SUMMARY

Safety data forms the foundation of effective aviation oversight. As States advance toward predictive and risk-based safety management systems, the integration of safety data across all aviation domains—civil and military—has become increasingly essential. Civil-military safety data integration enhances operational efficiency, improves situational awareness, and strengthens risk mitigation in both sectors.

This paper explores the importance, challenges, and opportunities associated with integrating civil and military aviation safety data in Bangladesh and as well as the Asia-Pacific region, with a focus on emerging practices and initiatives in Bangladesh.

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1. INTRODUCTION

1.1 ICAO's Global Aviation Safety Plan (GASP) highlights the necessity of integrated, data-driven safety oversight to support the transition toward predictive and risk-based safety management. Annex 19 of the Chicago Convention further promotes a harmonized approach to the collection, analysis, and exchange of safety data. Nonetheless, in many States, civil and military aviation activities are conducted under separate regulatory and operational frameworks, often limiting the systematic sharing of safety information and the dissemination of lessons learned.

1.2 In the context of Bangladesh, several airfields are designated as joint-use facilities, accommodating both civil and military aviation operations. Recognizing this operational reality, efforts are underway to enhance institutional collaboration between the Civil Aviation Authority of Bangladesh (CAAB) and the Bangladesh Air Force (BAF). These efforts are aimed at improving the exchange of safety-related information and fostering a more integrated national safety oversight system, in alignment with ICAO's safety management principles and global best practices.

2. DISCUSSION

2.1 Bangladesh operates several joint-use airfields—e.g. Hazrat Shahjalal International Airport (Dhaka), Shah Amanat International Airport (Chattogram) and Jashore airport— managed by the Civil Aviation Authority of Bangladesh (CAAB). These airfields represent a distinctive model of civil-military coordination, reflecting a shared commitment to the efficient and secure use of national airspace resources.

2.2 The integration of civil and military operations at joint-use airfields presents multiple strategic and operational benefits. These include, but are not limited to:

2.2.1 **Enhanced Situational Awareness**: Shared use of airspace and adjacent maritime zones allows for integrated surveillance and data exchange (e.g., radar, flight tracking, meteorological inputs), improving conflict resolution and safety of operations.

2.2.2 **Coordinated Threat Detection and Response**: The real-time exchange of information on potential threats, such as unidentified aerial objects or unauthorized drone activity, strengthens national airspace security and enhances coordinated response mechanisms.

2.2.3 **Improved Emergency and Disaster Response**: Military assets often play a critical role in supporting civil authorities during emergencies. Shared safety data enhances preparedness and expedites joint responses during natural disasters and/or humanitarian missions.

2.2.4 **Enhanced Search and Rescue (SAR) Capabilities**: Integrating military surveillance systems with civil aviation distress tracking (e.g., ELTs, etc.) significantly improves the effectiveness and timeliness of SAR operations.

2.2.5 **Optimized Infrastructure and Resource Utilization**: Integrated safety data systems reduce duplication and enable more efficient use of surveillance, communication, and navigation infrastructure, leading to cost savings and streamlined operations.

2.2.6 **Advanced Training and Simulation**: Joint access to safety data enables more comprehensive and realistic training programs, fostering interoperability between civil and military aviation personnel.

2.2.7 **Strengthened Cybersecurity Posture**: Leveraging military cybersecurity expertise and infrastructure enhances the protection of civil aviation systems against evolving cyber threats and supports the resilience of critical national transport infrastructure.

2.3 Existing Initiatives

In Bangladesh, while operational coordination between civil and military joint-use airfields is well established, the overall exchange of safety-related data remains limited. Nonetheless, several notable collaborative initiatives are underway:

a) Flight Safety Institute of the Bangladesh Air Force offers accident investigation training, contributing to the national pool of qualified aircraft accident investigators;

b) Civil Aviation Authority of Bangladesh, through its Civil Aviation Academy, provides Basic Air Traffic Control (ATC) training to both civil and military personnel;

c) Civil and military representatives participate in selected safety forums such international flight safety seminars, fostering cross-sector dialogue on aviation safety matters.

2.4 Identified Gaps

Despite these positive developments, there is currently no formal mechanism of proactive risk management in place through routine sharing of safety data, occurrence reports, or risk assessment findings between civil and military aviation authorities. This institutional gap limits the potential benefits of an integrated safety oversight approach and constrains the ability to fully leverage available data for proactive risk management.

2.5 Advantages of a Unified Aviation Safety Data Framework

2.5.1 Establishing a structured and secure framework for safety data sharing between civil and military aviation entities offers several national benefits:

a) **Enhanced Situational Awareness**: Consolidated data from both civil and military improves the better understanding of safety risks across the aviation system;

b) **Promotion of a Shared Safety Culture**: Structured collaboration fosters transparency, mutual trust, and continuous improvement;

c) **Improved Risk Analysis and Mitigation**: Integrated data sets support more comprehensive root cause analysis and enable systemic corrective actions;

d) **Optimized Use of Oversight Resources**: Reducing duplication and enabling data-driven prioritization enhances oversight efficiency.

2.5.2 Such a framework, for sharing of safety data among the military and civil users, would directly support Bangladesh's efforts to enhance the maturity of its State Safety Programme (SSP) and advance its alignment with the objectives of the ICAO Global Aviation Safety Plan (GASP).

2.6 Proposed Strategic Actions

Learning from the national experience through managing civil and military operations and the existing system of data sharing and in alignment with ongoing global efforts to promote integrated civil-military safety data sharing framework, Bangladesh proposes the following strategic actions for consideration by Asia-Pacific States:

a) **Civil-Military Safety Coordination Mechanism:**

Establishment of a national-level coordination forum at the State level to facilitate

structured dialogue on safety-related matters and joint review of occurrences involving both civil and military aviation stakeholders.

b) **Civil-Military Data-Sharing Protocol:**

Designing and-implementing a secure framework for the exchange of safety occurrence data, hazard reports, and safety performance trends, while safeguarding sensitive operational information.

c) **Joint Safety Studies:**

Implementation of collaborative studies on safety critical topics such as airspace utilization, ATC operations at joint-use aerodromes, and human factors in mixed operational environments. The outcomes and lessons learned should be documented and shared for broader regional benefit.

d) **Integration into State Safety Programme:**

Incorporation of civil-military safety data coordination as a functional element within the State Safety Programme (SSP) and associated Safety Management System (SMS) frameworks to ensure long-term sustainability and institutionalization.

e) **Joint Training and Familiarization Initiatives:**

Facilitation of cross-training opportunities for safety inspectors, investigators, and operational personnel from both civil and military organizations to foster mutual understanding and capacity building.

2.7 Regional Cooperation and Support

Recognizing that several Asia-Pacific States operate dual-use airfields or manage integrated airspace environments, Bangladesh encourages regional peers to explore similar initiatives. In this context, ICAO and relevant regional organizations are invited to:

a) Develop tailored guidance material to support civil-military safety data integration;
b) Facilitating regional workshops, knowledge exchanges, and case study presentations to disseminate good practices;
c) Promote the use of interoperable tools and systems to facilitate the secure collection, protection, and analysis of shared safety data.

2.8 Conclusions

2.8.1 The integration of safety data across civil and military aviation domains presents a valuable opportunity to enhance national safety oversight, operational coordination, and risk management, particularly in the States operating joint-use airfields or shared airspace.

2.8.2 Bangladesh's experience highlights the importance of establishing structured mechanism to facilitate data exchange, mutual learning, and joint safety analysis in alignment with ICAO's Global Aviation Safety Plan (GASP) and Annex 19 provisions.

3. ACTION BY THE CONFERENCE

3.1 The Conference is invited to:

a) acknowledge the importance of integrating civil and military aviation safety data;

b) encourage States to establish national civil-military safety coordination mechanisms, including data-sharing protocols and joint review forums;

c) support the integration of civil-military safety data frameworks into existing State Safety Programmes (SSPs) and Safety Management Systems (SMS);

d) request ICAO and regional partners to provide guidance material, capacity-building activities, and technical assistance to support the implementation of such frameworks; and

e) promote the sharing of best practices and case studies through regional workshops and collaborative platforms to enhance common understanding and interoperability.

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