1973MUN'26

International Civil Aviation Organization

(ICAO)

STUDY GUIDE

Under Secretary General: Alara Uzaslan
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AGENDA ITEM:

Strengthening International Aviation Security through Civil–Military Cooperation to Combat Illicit Air Transport Networks

I. Letter From Secretary General

Distinguished delegates, I am your Secretary General, Egemen Erkan. First of all, I wish you all a great conference. When we organized the 1973MUN conference, our main goal was to create a new, unparalleled conference that, academically speaking, would allow you to look back and say, "It worth my time and I gained so much from this." We carefully selected each Under Secretary General for our conference. Each of them is a master in their field and a successful members who will do everything in their power to help you. Thank you all for joining us, and I wish you all the best in your work.

II. Letter From Deputy-Secretary General

Dear Delegates,
My name is Eslem Yanık and I am honored to serve as the Deputy Secretary General of 1973MUN.
1973MUN aspires to be a conference distinguished by its strong academic standards and high quality debate. The true quality of this conference however lies in you your preparation, vision and the depth you bring to discussions. Within the dynamic international context of 1973, I am confident that you will represent your countries with both accuracy and impact.

Speak boldly, think critically, and demonstrate strong diplomacy.
I look forward to your debates.

Best regards,
Eslem Yanık
Deputy Secretary-General
1973MUN

III. Letter From Under-Secretary General

Esteemed delegates,
It is my pleasure to welcome you to the 1973MUN! I, Alara Uzaslan, consider it an honor to serve you as the Under Secretary General of the International Civil Aviation Organization. As the USG of the committee focusing on international aviation security and regulation addresses emerging global threats. We expect you to be aware of your decisions, as you'll be the ones determining whether global aviation remains secure or becomes a gateway to chaos. I am confident that each of you has thoroughly read the study guide and the rules, and that you will conduct debates in line with them, presenting sustainable and well reasoned solutions. As this is a specialized agency of UN you will naturally be addressing exceptional situations and crises; therefore, you will be expected to develop and propose specialized and context specific solutions. Please feel no hesitation to approach us if you have any questions or concerns during the conference. You can be sure that you will have an unforgettable experience.
Best regards,
Under-Secretary General
Alara Uzaslan

IV. Introduction to the Committee: International Civil Aviation Organization (ICAO)

The International Civil Aviation Organization (ICAO) is a United Nations agency which helps 193 countries to cooperate together and share their skies to their mutual benefit.

Since it was established in 1944, ICAO's support and coordination has helped countries to diplomatically and technically realize a uniquely rapid and dependable network of global air mobility, connecting families, cultures, and businesses all over the world, and promoting sustainable growth and socio-economic prosperity wherever aircraft fly.

As it enters a new era of digitization, and of incredible new flight and propulsion innovations, air transport is relying more than ever on ICAO's expert support and technical and diplomatic guidance to help chart a new and exciting future for international flight. ICAO is innovating itself to answer this call, and expanding its partnerships among UN and technical stakeholders to deliver a strategic global vision and effective, sustainable solutions.

ICAO enhances global civil aviation safety. This Strategic Objective is focused primarily on the State's regulatory oversight capabilities. The Global Aviation Safety Plan (GASP) outlines the key activities for the triennium.

All 193 signatory States to the *Convention on International Civil Aviation* (Chicago Convention) are invited to convene for Assembly sessions at ICAO, every three years.

There they adopt resolutions, agree on ICAO's budget and work programme, and pursue diplomatic and technical consensus on current priorities, policies, and targets for international civil aviation.

The Assembly countries also elect 36 States to serve on the ICAO Council, a governing body responsible for Secretariat oversight, and for the ongoing diplomatic and technical decision making through ICAO while the Assembly is not in session.

Each elected Council State appoints a diplomatic representative to ICAO for these three year periods, and they elect a non-voting Council President to manage their work and support and guide their engagements.

V. Introduction to Agenda Item:Strengthening International Aviation Security through Civil–Military Cooperation to Combat Illicit Air Transport Networks

In recent years, illicit air transport networks have become more complex and harder to detect, creating serious risks for international aviation security. These networks use gaps in regulation, weak control systems, and limited resources in some countries to carry out illegal activities such as human trafficking, smuggling of weapons, and unauthorized cargo transport. Civil aviation authorities are mainly responsible for managing safe and efficient air travel, while military forces have strong capabilities in surveillance, intelligence gathering, and rapid response. However, cooperation between these two sectors is often limited or not fully developed. For this reason, strengthening civil–military cooperation is very important in order to improve information sharing, increase situational awareness, and respond quickly to suspicious activities in airspace. This agenda item encourages member states to discuss practical solutions such as joint operations, shared databases, training programs, and support for developing countries that may lack technical capacity. By improving coordination and building trust between civil and military actors, the international community can create a more secure and resilient aviation system that is better prepared to prevent and combat illicit air transport networks.

However, another very important aspect of this problem is the need to increase international coordination and standardization. It has been found that different nations have different rules and different levels of security and technology. It is these factors that allow illegal air transport networks to exist and flourish undetected. It is therefore very important that international guidelines are developed that can be implemented across all nations and that can be effective at all times. In addition to this, it has also been found that innovation and technology can be very helpful in this case. For instance, using modern technologies like radar and satellite systems can be very helpful in detecting illegal activities and preventing them from happening in the first place. Education and training are also very important in this case, as it can help civil and military officials understand each other's roles and requirements and can increase cooperation between them. It is therefore very important that innovation is used to increase international coordination and standardization and that a united front is taken against illegal air transport networks.

VI. Historical Development of Aviation Security

Early Beginnings: The Birth of Aviation Security (1910s-1950s)

1910s: The Wright brothers' first powered flight marked the beginning of aviation. Security was non-existent as aviation was primarily experimental.
1931: The first recorded hijacking occurred in Peru, bringing the need for some level of security into awareness.
The first recorded aircraft hijack took place on February 21, 1931, in Arequipa, Peru. Byron Richards, flying a Ford Tri-Motor, was approached on the ground by armed revolutionaries. He refused to fly them anywhere during a 10-day standoff. Richards was informed that the revolution was successful and he could be freed in return for flying one of the men to Lima
1944: The Chicago Convention established the International Civil Aviation Organization (ICAO), setting the stage for a global framework of aviation safety and security.

Notes – Security in the Early Days

Minimal checks and open airport access were common in the 1940s due to low threat levels and limited aviation activity.
Early focus was on aircraft safety rather than intentional security threats.

Response to Hijackings and Early Regulations (1960s-1970s)

1960s: A surge in aircraft hijackings occurred, particularly in the U.S. and Cuba. Security measures began to include passenger screening.
1974: The adoption of Annex 17 by ICAO establishing international standards for safeguarding civil aviation.

>> The rise of hijackings in the 1960s, particularly in the U.S. and Cuba, forced authorities to introduce basic screening processes.

>> The adoption of ICAO Annex 17 (1974) standardized global aviation security measures, introducing screening and safeguarding measures.

>> Initial passenger profiling and armed marshals (Sky Marshals) were introduced to deter hijackers.

Notes Related to Hijackings

Introduction of metal detectors and baggage screening in response to frequent hijackings.
The "Sky Marshals" program was introduced in the U.S. to place armed officers on flights.

The Age of Terrorism and Tightened Controls (1980s-1990s)

1985: The bombing of Air India Flight 182 over the Atlantic Ocean highlighted the need for enhanced baggage screening.

1988: The bombing of Pan Am Flight 103 over Lockerbie, Scotland, led to stricter regulations on cargo and passenger screening.
1996: ICAO introduced the Aviation Security Plan of Action to provide a systematic response to threats.

Notes Related to Explosive Detection Systems

Implementation of Explosive Detection Systems (EDS) for checked luggage.
Development of the International Civil Aviation Organization's Aviation Security Training Packages (ASTPs).

Post-9/11 Era: A Paradigm Shift in Aviation Security (2001-2010)

2001: The September 11 attacks marked a turning point. The U.S. formed the Transportation Security Administration (TSA), and ICAO reinforced Annex 17 standards.
2006: Introduction of restrictions on liquids, aerosols, and gels (LAGs) in response to a foiled terrorist plot.
2009: The "underwear bomber" incident spurred the introduction of body scanners.

Notes Related to Post 9/11 Developments

Development of advanced imaging technologies like millimeter-wave scanners.
Implementation of Secure Flight programs and Passenger Name Record (PNR) data sharing for international flights.

Modern Era: Embracing Technology and Cybersecurity (2011-Present)

2017: Increased focus on cybersecurity threats to aviation systems.
2018: The Global Aviation Security Plan (GASeP) was launched by ICAO to enhance global security efforts.
2020s: Adoption of Artificial Intelligence (AI) and machine learning for threat detection.

Aviation security has shifted from reactive to proactive measures, leveraging technology and international collaboration.
Incidents like hijackings and terrorist attacks have significantly influenced regulatory changes and operational practices.
Future aviation security is likely to focus on integrating advanced technologies and addressing emerging threats like drones and cyberattacks.

- Cybersecurity has emerged as a major concern, with efforts to protect aviation systems from digital threats.
- ICAO GLOBAL AVIATION SECURITY PLAN (GASeP) – The ICAO Council, at the third meeting of its 232nd Session on 10 June 2024, approved the Second Edition of the Global Aviation Security Plan (GASeP) – This Second Edition of the GASeP has been developed as a strategic document to guide States, industry, and ICAO in their efforts to enhance aviation security.

Developments will continue to embrace advanced technologies like biometrics, AI-driven analytics, and predictive security systems became central to modern aviation security.

VII. Overview of Illicit Air Transport Networks

1. What is illegal transportation ?

The illegal air transport is defined as any air transport that is conducted through aircraft or air systems and is in violation of national and international aviation laws and regulations. In most instances, this is well planned and executed in a manner that is not easily identifiable. For instance, illegal air transport is often conducted through remote airfields and by switching off air transport systems and changing flight plans at the last minute. In most instances, this is more common in areas that are not well monitored by air transport authorities and in areas where these authorities lack the technical and financial ability to fully monitor their airspaces. It is therefore not easy to identify illegal air transport since it is often similar to legal air transport. It is at this point that civil-military cooperation comes in handy since civil aviation authorities can be of great help through their regulatory powers, while the military can be of great help through their radar and intelligence systems.

2. Human trafficking, arms trafficking, and illegal logistics networks.

Illicit air transport networks have been instrumental in the facilitation of various transnational criminal activities like human trafficking, arms trafficking, and logistics trafficking. This type of criminal activity utilizes the speed, flexibility, and worldwide reach of air transport to move individuals or goods across national boundaries in a very short period of time. This makes it extremely difficult for the relevant authorities to track these activities. In human trafficking, for example, the victims are transported with false identities or through false documentation, or they are routed through multiple countries, thus reducing the chances of detection. Moreover, the traffickers are able to exercise greater control over the victims. Air transport has been very appealing to these criminal networks because they are able to evade border control at land or sea routes while taking advantage of weaknesses in airport security.

In a similar fashion, arms trafficking through air transport enables these criminal networks to transport weapons, ammunition, and military equipment to conflict zones, terrorist cells, or organized crime networks in a very fast and clandestine manner. This activity directly contributes to the escalation of conflict, the prolongation of conflict, and the undermining of regional or international security stability.
In addition, illegal logistics networks also utilize aviation for moving a variety of prohibited items such as narcotics, counterfeit goods, and other illegal items. This leads to enormous profits for criminal organizations and negatively impacts legal economies and governmental authority.

It is also important to note that these various forms of criminal activities are usually interconnected. This means that various routes and networks used for various forms of criminal activities might overlap. This makes this problem even more complicated. Therefore, it is important to take various steps to mitigate this problem. Civil-military relations are crucial in improving intelligence sharing, surveillance systems, and conducting joint operations against suspicious flights. In addition, international cooperation, advanced technology, inspection procedures, and capacity-building support

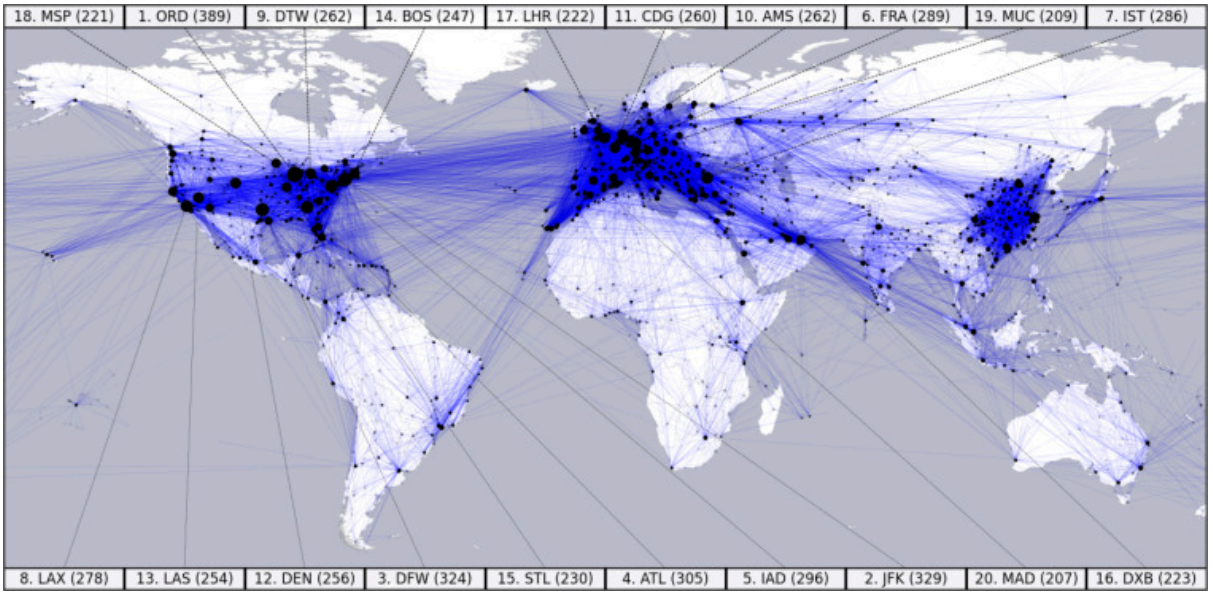
for developing countries are also crucial in effectively dealing with this problem. By taking such steps, it is possible to reduce the impacts of such criminal activities related to aviation.

VIII. Intelligence Sharing and Information Coordination

Intelligence sharing and information coordination are two essential components in the development of international aviation security and the fight against the operations of illicit air transport networks. This is because most of the activities of the networks cover more than one country and employ complex and highly advanced routes to evade detection. This makes it impossible for individual nations to effectively combat the vice. Information coordination and intelligence sharing, therefore, play a crucial role in the development of international aviation security. This is because the systems enable individual nations to track the activities of the networks and to react to the potential threats in the aviation sector. However, there have been several challenges in the development of the international information-sharing systems. These include the lack of trust, privacy, and the varying technological capacities of the nations involved.

1. Regional Case Studies of Illicit Air Transport

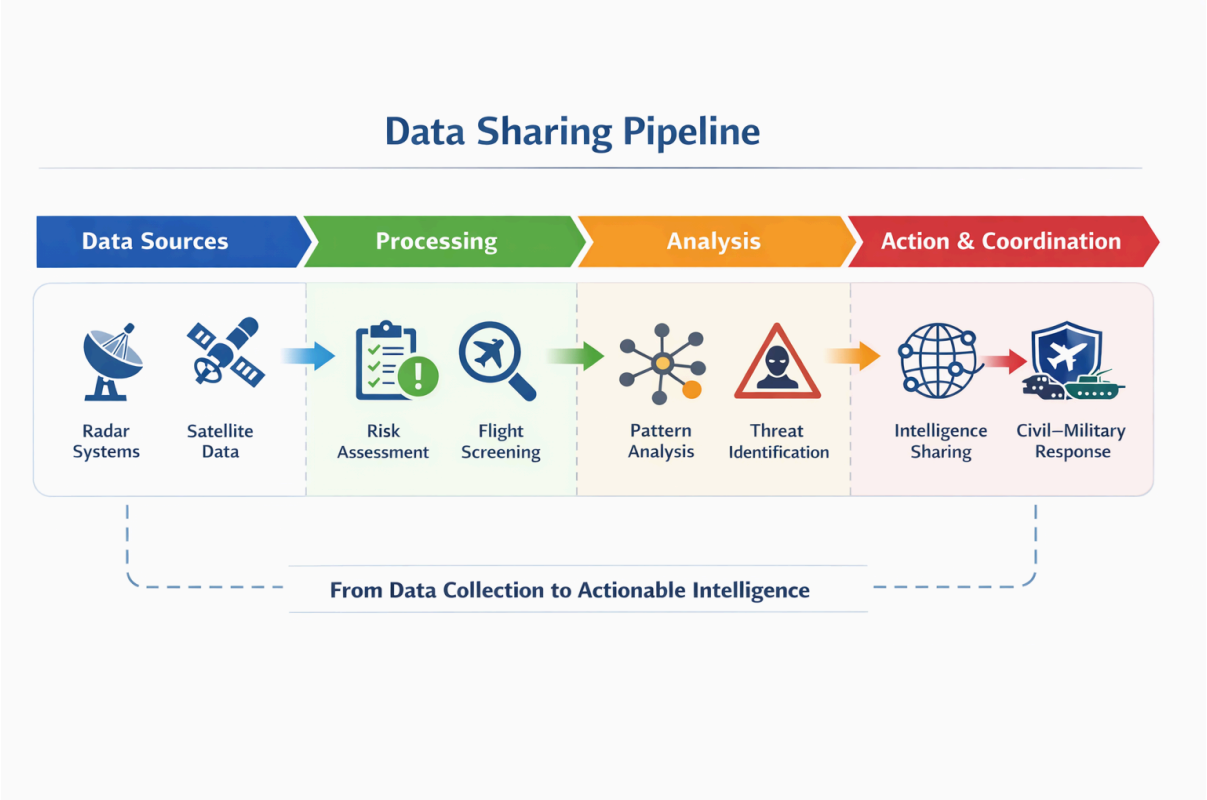
Regional instances indicate that the operation of illicit air transport networks varies depending on regional circumstances but has some general characteristics. In some areas of Africa and Latin America, porous borders and insufficient radar systems have facilitated the use of air transport for the trafficking of drugs and weapons through remote airfields. In the Middle East, conflict areas are associated with illicit air operations for the supply of arms and provisions to non-state actors. In Southeast Asia and Eastern Europe, human trafficking has been facilitated by commercial and chartered flights with counterfeit documentation for the transportation of victims. These regional instances indicate the potential of illicit air transport networks to take advantage of shortcomings in surveillance, coordination, and enforcement by criminal elements. They also point to the necessity of regional cooperation since countries must collaborate to monitor their airspace and share vital intelligence in real-time.



2. The importance of international data sharing

Data sharing among nations has been at the center of the fight against illegal air transportation activities. This is due to the fact that no country has comprehensive information regarding air traffic movements across the world. The use of shared passenger information systems like API/PNR data, cargo tracking systems, and air flight tracking systems helps authorities to identify suspicious air travelers and cargo before reaching their destinations. As a guide to the resolution paper writing delegation, it is essential to consider possible solutions like developing data sharing protocols and encouraging the use of electronic communication.

In addition to that, the differences in capacities of developed and developing countries need to be considered for the purpose of equal participation in the international data-sharing platforms. There are many countries that lack the facilities or trained personnel for effective collection and sharing of information related to aviation. Such options could be considered by the resolution paper's delegates for the purpose of assisting these countries. Furthermore, the establishment of intelligence centers or coordination centers could also be considered for the purpose of effective information handling and prompt response to any potential threats.



The next important aspect that needs to be considered for the purpose of effective resolution of the problem is the balance between the need for security and the need for information sharing while considering the aspect of sovereignty of countries. Countries may be unwilling to share information for the purpose of maintaining their sovereignty or for the sake of information privacy. Such aspects could be considered for the purpose of drafting resolution papers for the problem of international information sharing for the purpose of enhancing the security of the world against the activities of illicit air transport networks.

Regional variations demonstrate how illicit air transport networks adapt to local vulnerabilities:

- West Africa (e.g., Guinea-Bissau, Mali):

Weak governance and limited radar coverage have enabled the use of clandestine airstrips for narcotics trafficking, particularly cocaine transported from Latin America to Europe.

- Latin America (e.g., Venezuela, Honduras):

Drug cartels frequently utilize small aircraft and remote landing sites to move illicit goods, exploiting gaps in airspace monitoring and law enforcement.

- Middle East (e.g., Syria, Libya):

Ongoing conflicts have facilitated illicit air operations used to supply arms and logistical support to non-state actors, often bypassing international embargoes.

- Eastern Europe (e.g., Ukraine pre-2022 conflict zones):

Illicit networks have been linked to arms trafficking and the movement of sensitive military equipment through loosely monitored routes.

- Southeast Asia (e.g., Thailand, Malaysia):

Human trafficking networks exploit commercial aviation systems by using fraudulent travel documents and transit hubs with high passenger volumes.

These examples highlight that while the methods differ, the core enabling factors remain consistent: weak surveillance, corruption, limited coordination, and insufficient enforcement capacity.

Consequences of weak airspace control

Weak airspace control poses a significant threat to both national and international security by creating operational gaps that can be exploited by illicit air transport networks. In regions where radar coverage is limited, air traffic management systems are outdated, or enforcement capacity is weak, unauthorized aircraft can operate with reduced risk of detection.

One major consequence is the facilitation of transnational organized crime. Criminal networks take advantage of poorly monitored airspace to transport narcotics, weapons, and other illicit goods. For instance, in parts of West Africa such as Guinea-Bissau, limited surveillance infrastructure has enabled the use of clandestine airstrips for cocaine trafficking from Latin America to Europe, contributing to the country being labeled a “narco-state” by international observers.

Another critical consequence is the support of armed conflict and terrorism. Weak airspace control allows non-state actors to bypass international monitoring systems and arms embargoes. A notable example is the violation of the United Nations arms embargo on Libya following the Libyan Civil War, where unauthorized flights were reportedly used to deliver weapons and military equipment to conflicting parties. Such activities prolong conflicts and destabilize entire regions.

Weak airspace governance also leads to the erosion of state sovereignty. When a state cannot effectively monitor or control its own airspace, it undermines governmental authority and raises concerns about its ability to enforce laws within its territory. This can have spillover effects, as neighboring countries may also become vulnerable to cross-border illicit operations.

In addition, there are serious economic implications. Illicit air transport bypasses customs controls and taxation systems, resulting in significant revenue losses for governments. It also distorts legal markets by enabling the circulation of counterfeit or untaxed goods. According to reports by the United Nations Office on Drugs and Crime, the financial scale of transnational organized crime—much of which is facilitated by weak transport oversight—amounts to hundreds of billions of dollars annually.

Another important consequence is the increased risk of aviation safety hazards. Unauthorized or “ghost flights” often do not comply with international safety standards, increasing the likelihood of mid-air collisions or accidents. For example, the downing of Malaysia Airlines Flight 17 over eastern Ukraine in 2014 highlighted the dangers of operating in poorly controlled or conflict-affected airspace, where both civilian and military risks intersect.

Finally, weak airspace control undermines international cooperation and trust. Aviation security relies heavily on coordinated global systems, and gaps in one state’s capabilities can create vulnerabilities across entire regions. This makes it more difficult to implement effective intelligence sharing, joint operations, and global aviation standards

IX. Roles of Civil Aviation Authorities and Military Forces

Roles of Civil Aviation Authorities and Military Forces
A) Definition
Military/Civil Coordination in aviation covers issues such as clearance of military formation flights, military air traffic controllers assisting with civil aircraft in certain airspace, and monitoring of restricted and prohibited airspace. Other coordination matters include joint use airports, military flight routing during contingencies, and airspace security.

1.Military Formation Flights
Military formation flights routinely transit civilian-controlled airspace. Additionally, military aircraft on cross-country flights sometimes land and depart from civilian airports. These situations require civilian controllers to be familiar with certain military procedures.
While flying en route in standard formation, the lead aircraft normally transmits, or "squawks," a discrete transponder code. Other aircraft in the formation will keep their transponders on standby mode. This prevents signal garbling and false Traffic Collision Avoidance System (TCAS) indications.
In a standard formation, according to International Civil Aviation Organisation (ICAO) procedures, the distance between aircraft should not exceed 0.5 NM horizontally and 100 ft vertically. Some countries extend these limits. For example, in the U.S., a formation is considered standard if the horizontal spacing is within one NM. Standard formations are treated as a single aircraft with regard to navigation and position reporting.
Some operations, such as aerial refueling flights, require nonstandard formations. These formations, sometimes called "cell formations," allow for greater spacing between aircraft. This becomes necessary when, for example, multiple aircraft in a refueling operation need to maneuver into contact position behind the tanker aircraft. This may require analtitude reservation (ALTRV) and special handling.
Arrival and departure procedures for formation aircraft can vary. In some countries, formation departures and arrivals are not permitted at civilian airports. Where permitted, departures usually involve takeoff at specified intervals, such as one minute or less between aircraft. Arrivals can involve tactical procedures such as overhead breaks. In such arrivals, aircraft overfly the field at a specified

altitude, then bank steeply for interval landings. These tactical procedures are designed to minimize exposure to hostile fire.
Aircraft transiting to combat zones may overfly friendly civilian airspace on an instrument flight rules (IFR) flight plan, then cancel IFR and fly under visual flight rules (VFR) as they near the combat entry point. Exiting a combat zone, they may reverse the procedure and call for an IFR clearance on the return flight.

2.Military Authority Assumes Responsibility for Separation of Aircraft (MARSA)
When flying in civilian-controlled airspace, military flights may in some situations declare MARSA, for Military Assumes Responsibility for Separation of Aircraft. This temporarily delegates separation responsibility to the military authority operating the flights, thereby relieving Air Traffic Control (ATC) of workload.
The procedure means the civilian controller does not have to provide separation between participating military aircraft. Civilian ATC still handles separation between the military formation and civil aircraft. MARSA is initiated only by military aircraft (and this can include civilian-owned aircraft under contract to the military).
Typically, an aircraft commander will declare MARSA for only a portion of a flight. For example, when military aircraft approach a rendezvous point for a low-level formation exercise, MARSA may be used only for the duration of the low-level training.

3.Military Air Traffic Control of Civilian Aircraft
In many cases, civilian aircraft transit airspace is handled by military controllers. For example, in the busy airspace of the mid-Atlantic region of the United States, approach controllers at Joint Base Andrews near Washington, DC, work as part of the larger Potomac Terminal Radar Approach Control (TRACON). A civilian Air Route Traffic Control Center (ARTCC) may hand off a civilian flight to a military controller (or vice versa) in seamless fashion. Large military air bases around the world use this arrangement to coordinate air traffic with civilian authorities.
Civil aircraft in distress can declare an emergency and land at military airfields in most countries, if no safer options exist. Military airfields may have more robust Rescue and Firefighting Services (RFFS) than small civilian airports. However, unexpected civilian aircraft present a security risk for military bases, and civilian use of military fields is considered a last resort.
In most countries, military aircraft typically operate with ultra high frequency (UHF) radios, and civil aircraft use very high frequency (VHF) radios. This requires military controllers to transmit and receive in duplex mode to avoid communication problems. Similarly, civilian controllers can communicate in duplex mode with military aircraft.

4.Joint Use Airports
A number of military air bases around the world share facilities with civilian operators. For example, in Honolulu, Hawaii, in the U.S., Joint Base Pearl Harbor Hickam (the former Hickam Air Force Base), shares runways with Daniel K. Inouye International Airport. Similar arrangements exist at Baghdad International Airport in Iraq, Naha Airport in Japan, and many others around the world.
Joint use airports are normally configured so that the civilian terminals and other facilities occupy one side of the airport property, and the military base occupies space on the other side of the runway complex. Civilians have the usual access on the civilian side, and the military maintains restricted access on the other. Certain taxiways that lead to the military ramp are closed to civilian traffic. Military police enforce these taxiway and ramp restrictions. Signage may carry warnings such as: MILITARY TRAFFIC ONLY. USE OF DEADLY FORCE AUTHORIZED.
Air traffic controllers at joint use airports can be military or civilian, or a combination of both.

5.Management of Special Use Airspace
Certain airspace around the world is prohibited for all civilian aircraft. Such airspace is known as Prohibited Areas. Controllers monitor these areas for violations, and when appropriate, warn aircraft nearing the areas and alert military authorities. Other airspace, such as Restricted Areas, may be transited by civilian aircraft when not in use for military purposes. Military and civilian air traffic controllers and other authorities coordinate times for activation and deactivation of Restricted Areas. This protects civilian aircraft from areas where military aircraft may be conducting weapons training, low-level flight, and other potentially hazardous operations.
Planned flights for civilian aircraft may cross Restricted Areas as long as the crossing takes place when the area is inactive. Pilots and controllers often refer to active Restricted Areas as "hot," and inactive Restricted Areas as "cold." Civilian aircraft entering a hot Restricted Area are warned by controllers and usually given a heading for departing the area. Violating a Prohibited Area or a hot Restricted Area can involve penalties by the relevant Air Navigation Service Provider (ANSP).
Another important area of coordination is the use of Air Defense Identification Zones (ADIZ). An ADIZ is an area of airspace over land or water, usually extending out from a national border, in which the ready identification, location, and control of aircraft is required in the interest of national security. Entering an ADIZ normally requires an approved and activated flight plan. Most countries also require certain equipment for ADIZ penetration, such as a transponder and two-way radio. Flights entering an ADIZ without meeting these requirements may be intercepted by military aircraft.

6.Airspace Security
In extreme situations, military and civilian air traffic controllers and other authorities can coordinate restriction or complete shutdown of civil air traffic. Such an event took place in the U.S. following the terrorist attacks of Sept. 11, 2001. This involved the activation of what was then called Security Control of Air Traffic and Air Navigation Aids (SCATANA).
According to the National Air Traffic Controllers Association (NATCA), when an order went out to land every civilian aircraft at the nearest airport, controllers guided 700 aircraft to land in the first four minutes, 2,800 in the first hour, and more than 4,500 within the first three hours. Civilian air traffic in the U.S. remained grounded for two days.
A similar program now exists under the name Emergency Security Control of Air Traffic (ESCAT), described in the U.S. Code of Federal Regulations 32 CFR 245 and the U.S. Federal Aviation Administration's (FAA) Advisory Circular (AC) 99-1E. The AC defines ESCAT as "an emergency preparedness plan that prescribes the joint action to be taken by appropriate elements of [the Department of Defense], the Department of Transportation, and the [Department of Homeland Security] in the interests of national security to control air traffic under emergency conditions." Other countries have similar programs.

7.Intercept Procedures
Civilian pilots are expected to know procedures to follow in case of intercept by military aircraft. Intercept could happen for any number of reasons, including navigation error or sudden and unexpected shutdown of airspace due to a contingency. Procedures are established by State regulators, and they are fairly standard from country to country. More detail can be found in Military Interception Signalling.Signalling methods include rocking wings and flashing navigation lights to communicate acknowledgement of the interception.
All pilots are urged to monitor emergency frequencies 121.5 VHF and/or 243.0 UHF to help avoid intercept situations. These frequencies are sometimes referred to as the "guard" frequencies. An intercepted aircraft, or an aircraft about to penetrate special use airspace or an ADIZ without

clearance, may be addressed as "Unknown Rider." Controllers or intercepting military pilots may also refer to such aircraft simply as "Aircraft squawking (transponder number) at (altitude) and (heading)."

B) Duties of Civil Aviation Authorities

Civil Aviation Authorities (CAAs) function as the primary regulatory and supervisory bodies of civil aviation, implementing the global framework established by the International Civil Aviation Organization (ICAO). ICAO's mission to ensure the safe, orderly, and efficient development of international air transport is operationalized through national authorities, making CAAs essential actors in translating international norms into enforceable domestic regulations.

1. Regulatory Oversight and Certification

CAAs are responsible for enforcing ICAO's Standards and Recommended Practices (SARPs), particularly through certification processes such as Air Operator Certificates (AOCs), pilot licensing, and aircraft airworthiness approvals. These processes are supported by Safety Management Systems (SMS), which integrate predictive risk assessment tools rather than relying solely on reactive accident investigation.

The importance of strong regulatory oversight became evident following the September 11 attacks, where systemic security and regulatory gaps—particularly in cockpit access and passenger screening—were exploited. In response, CAAs worldwide strengthened certification and compliance mechanisms, including reinforced cockpit doors and stricter crew training requirements. This demonstrates how regulatory weaknesses in one jurisdiction can have global consequences, reinforcing the necessity of standardized oversight.

2. Air Traffic Management and Surveillance Systems

CAAs oversee Air Traffic Management (ATM) systems, which integrate Air Traffic Services (ATS), Airspace Management (ASM), and Air Traffic Flow Management (ATFM). These systems increasingly rely on advanced surveillance technologies such as ADS-B and satellite-based tracking.

The disappearance of Malaysia Airlines Flight MH370 disappearance exposed critical limitations in global aircraft tracking systems, particularly over oceanic and remote regions where radar coverage is limited. The incident highlighted the risks of relying heavily on transponder-based tracking, as the aircraft effectively became "invisible" after its transponder was disabled. Following this घटना, ICAO introduced the Global Aeronautical Distress and Safety System (GADSS), requiring more frequent position reporting. This case underscores how gaps in surveillance infrastructure can delay response efforts and complicate search-and-rescue operations, making continuous tracking technologies a necessity rather than an option.

3. Aviation Security (AVSEC) Frameworks

Under ICAO Annex 17, CAAs are tasked with safeguarding civil aviation against unlawful interference through multi-layered security systems. These include passenger screening technologies,

intelligence-based risk assessments, and international data-sharing mechanisms such as API and PNR systems.

The September 11 attacks fundamentally reshaped AVSEC policies, demonstrating that aviation threats are not limited to external attacks but can originate from within the system itself. As a result, CAAs expanded their focus from physical security to include behavioral analysis, insider threat detection, and cybersecurity measures. This evolution illustrates that aviation security must remain adaptive, as static systems quickly become obsolete in the face of evolving threats.

4. International Coordination and Airspace Risk Management

CAAs play a crucial role in assessing risks associated with overflying conflict zones and issuing advisories or restrictions accordingly. Coordination through ICAO ensures that states share intelligence and maintain consistent safety standards.

The downing of Malaysia Airlines Flight MH17 during the Ukraine conflict airspace crisis revealed severe shortcomings in airspace risk assessment and international coordination. Despite ongoing military conflict in Eastern Ukraine, civilian flights were still permitted in the region. This tragedy demonstrated that inadequate communication between civil and military authorities, combined with fragmented decision-making, can lead to catastrophic outcomes. Consequently, ICAO and national authorities strengthened guidance on conflict zone risk management, emphasizing proactive airspace closures.

C) Role of Air Force and Military Radar Systems

While CAAs regulate civil aviation, military forces provide the security infrastructure necessary to enforce airspace sovereignty and respond to high-level threats. Their role becomes particularly critical in situations where civil systems are insufficient.

1. Airspace Sovereignty and Interception Capabilities

Air forces maintain continuous surveillance of national airspace and are authorized to intercept unidentified or non-compliant aircraft. These operations follow ICAO Annex 2 procedures, including visual identification and communication attempts.

During the September 11 attacks, delays in military response highlighted the need for faster coordination between civil and military authorities. As a result, many countries introduced Quick Reaction Alert (QRA) systems, ensuring that fighter jets can be deployed within minutes. This illustrates how military readiness directly impacts the ability to mitigate aviation-related threats in real time.

2. Military Radar Systems and Detection of Non-Cooperative Targets

Military radar systems significantly expand surveillance capabilities beyond those available to civil aviation. Primary Surveillance Radar (PSR) can detect aircraft without transponders, while advanced systems such as Over-the-Horizon Radar (OTH) and Airborne Warning and Control Systems (AWACS) provide extended coverage.

The case of Malaysia Airlines Flight MH370 disappearance demonstrated that even when civil radar coverage is lost, military radar may still track aircraft movements. However, the lack of timely data sharing between military and civil authorities delayed the reconstruction of the aircraft's flight path. This highlights a critical issue: possessing advanced detection capabilities is insufficient without effective inter-agency communication and transparency.

3. Civil-Military Integration and Flexible Use of Airspace

Modern airspace management relies on the integration of civil and military systems, often implemented through the Flexible Use of Airspace (FUA) concept. This approach allows dynamic allocation of airspace based on operational needs, maximizing efficiency while maintaining security.

Organizations such as NATO and Eurocontrol have developed integrated frameworks to facilitate this coordination. These systems ensure that both civil and military actors share real-time data, reducing the risk of miscommunication.

The Ukraine conflict airspace crisis further demonstrated that insufficient civil-military coordination can result in fatal misjudgments regarding airspace safety. Effective integration is therefore not only a matter of efficiency but a critical component of risk mitigation.

4. Strategic Role in Crisis Response and Emerging Threats

Military forces are essential in responding to complex and emerging threats, including hijackings, drone incursions, and cyber-attacks targeting aviation infrastructure. Their capabilities extend beyond surveillance to include rapid response, threat neutralization, and intelligence gathering.

For instance, the increasing use of drones in conflict zones and near airports has required military involvement in detection and countermeasure systems. Civil aviation authorities alone lack the technological and operational capacity to address such threats comprehensively. This reinforces the idea that aviation security in the modern era depends on a hybrid model combining civil regulation with military enforcement.

X. Point of International Cooperation

a. Capacity gaps in aviation security in developing and underdeveloped States

The continuation of illegal flight routes is usually explained by the fact that the security systems of developing and underdeveloped countries are fraught with serious flaws and weaknesses. In particular, poor technological resources and legislative shortcomings leave holes in the security chain through which organized crime syndicates can operate with impunity. As noted above, in underdeveloped countries, airports lack the latest screening technologies and therefore cannot detect illegal goods that enter the country. In addition, a poorly developed biometric database does not allow border patrol services to identify suspicious people associated with known

terrorist groups who seek to change their identity and travel freely without being detained.

However, the most problematic aspect remains the issue of surveillance of secondary and remote air strips in these regions. In particular, since in underdeveloped countries security service representatives operate mainly from the capital city, monitoring of provincial areas is practically absent, which creates a kind of blind spot through which the activities of smugglers can be conducted undetected. Therefore, to eliminate such problems, the involvement of the world community is essential. In particular, the development of technological support for these countries should be carried out together with reorganization of their legislative framework and adaptation to the standards of ICAO SARPs. Ensuring that all states have the possibility of controlling their airspace and imposing regulations would solve the problem of "security havens" once and for all.

b. Financial Assistance and International Funding Mechanisms

As the issue of overcoming financial barriers stands, it requires a number of new approaches to the creation and improvement of various funding mechanisms. For many poorer nations, investing money into the implementation of security technologies proves to be too costly an endeavor, since they are often competing with other necessary expenses, like medical treatment and education. Despite existing funding schemes, which include ICAO voluntary funds and multilateral development banks' assistance, in order to solve the problem at hand, additional financial aid should be sought in order to allow for the full-scale modernization of aviation infrastructure.

PPP is one of the most appropriate ways to address the problem in question. Private companies can manage airport security operations with the participation of the governmental agency. This way, the process of financial management is transferred from the public sphere to private organizations, thus relieving the national budget. Also, security modernization grants should be created with a special emphasis put on purchasing of high cost equipment like PSR/SSR and automated gates. Effectiveness of these funding schemes should be ensured through the creation of transparent criteria. Linking financial aid to tangible results, like successful audits or increased

effectiveness of security systems will ensure that the country receiving help uses funds properly.

Ultimately, these financial tools should allow overcoming economic barriers and enabling every country involved to participate in common efforts at protecting airspace. No link in the chain could afford to be weakened because of economic issues. The main objective is creating an environment in which lack of money would no longer prevent any government from taking adequate protective measures. These steps are necessary in order to create a safe global aviation environment for all users.

c. Training Programs and Knowledge Sharing

As far as enhancing the human component in the system of air transportation is concerned, international aid should be directed towards providing adequate training programs for staff. As a rule, civil aviation authority, customs service and military intelligence work separately. This leads to creating "intelligence silos" and failure to report suspicious activities. In order to deal with these problems, there should be created a number of initiatives aimed at developing a common language. By educating the staff to operate within international norms and standards, it will become easier for these individuals to utilize such technology as the INTERPOL's I-24/7 system and SLTD database in an efficient way.

It will be necessary to encourage continuous learning among professionals because of constantly changing methods used by criminals. As it often happens that criminal groups try to adjust to any measures taken against them, it is crucial for states to have the ability to counter these changes. This is possible through building knowledge-sharing networks, which will allow information about new ways to hide evidence, unusual flight plans, and movement of dual-use items to reach other countries within seconds. Through joint training programs and workshops in regions, countries will have the opportunity to create trust between each other and share data faster. By using such an approach, the role of personnel is transformed into that of a valuable source of intelligence.

d. Sustainable Development and Aviation Security

The implementation of aviation security within the context of sustainable development is a necessity that cannot be neglected. First, it highlights that a secure, reliable, and productive air traffic infrastructure is a key factor in the process of economic development, international trade, and regional stability. Second, when one considers aviation security from the perspective of the United Nations SDGs, namely Goal 9

(Industry, Innovation, and Infrastructure) and Goal 16 (Peace, Justice, and Strong Institutions), one will come to realize that efforts to improve aviation security are essential not only for the current state but also for its sustainable future. Secure skies are favorable conditions for fostering the development of a thriving tourism industry and foreign direct investment that can help developing countries diversify their economies.

While working on securing their borders, states face the need to find a balance between modernizing aviation security systems and implementing measures for minimizing their impact on the environment. One should note that innovations in aviation security may provide states with the opportunity to have highly secured skies that require less land and generate a significantly smaller carbon footprint in comparison with the traditional methods of securing borders. In other words, the principles of sustainable development imply that new approaches to aviation security should not create obstacles for the development and progress of a country. On the contrary, security measures must act as a driver that helps create safe skies for fostering the development of regional trade corridors.

XI. Questions to be addressed

1. How can ICAO bridge structural capacity gaps by integrating Public-Private Partnerships (PPP) and breaking intelligence silos to eliminate 'security havens' while aligning with Sustainable Development Goals?

2. Should new institutions be established to combat smuggling, or would strengthening existing ones be sufficient?

3. How can security measures be implemented for private jet owners without infringing upon human rights, and how can such measures be effectively monitored and enforced?

4. What should constitute the primary priority in responding to emerging threats?

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