

# RESEARCH REPORT

## 1. COMMITTEE: ICAO

Back-up Topic:

The question of managing the environmental and humanitarian impacts of expanding airport infrastructure worldwide.

## 2. INTRODUCTION

The expansion of airport infrastructure worldwide has become a pressing issue as global air travel continues to grow, driven by increasing passenger demand and economic development. While expanding airports can support international connectivity, trade, and regional development, it also poses significant environmental and humanitarian challenges. Large-scale airport projects can contribute to increased greenhouse gas emissions, noise pollution, and ecosystem disruption, while affecting local communities through land acquisition, displacement, and changes in livelihoods. Balancing the benefits of aviation growth with environmental sustainability and social responsibility requires careful planning, regulatory oversight, and the adoption of innovative mitigation measures. The International Civil Aviation Organization (ICAO) plays a central role in setting global standards and guiding member states to manage both the environmental footprint and the humanitarian consequences of airport expansion, ensuring that growth in aviation aligns with the principles of sustainable development and human well-being.

## 3. KEY TERMS

### ENVIRONMENTAL IMPACT ASSESSMENT (EIA):

- CONDUCTED BEFORE AIRPORT CONSTRUCTION OR EXPANSION
- EVALUATES EFFECTS ON ECOSYSTEMS, AIR AND WATER QUALITY, HUMAN HEALTH, AND LOCAL COMMUNITIES

### NOISE CONTOUR MAPPING:

- MODELS THE AREAS AFFECTED BY AIRCRAFT NOISE
- HELPS IDENTIFY ZONES WHERE MITIGATION MEASURES ARE NEEDED

### **SUSTAINABLE AVIATION FUEL (SAF):**

- **BIO-BASED OR SYNTHETIC FUELS FOR AIRCRAFT**
- **REDUCES GREENHOUSE GAS EMISSIONS ACROSS THE AVIATION LIFECYCLE**

### **RESETTLEMENT ACTION PLAN (RAP):**

- **STRUCTURED PLAN TO RELOCATE COMMUNITIES AFFECTED BY AIRPORT PROJECTS**
- **ENSURES SOCIAL, ECONOMIC, AND LEGAL PROTECTIONS FOR DISPLACED PEOPLE**

### **MITIGATION HIERARCHY:**

- **PLANNING FRAMEWORK: AVOID → MINIMIZE → RESTORE → COMPENSATE**
- **ENSURES ENVIRONMENTAL AND SOCIAL IMPACTS ARE MANAGED RESPONSIBLY**

## **4. BACKGROUND**

- **1944 – CHICAGO CONVENTION, ICAO ESTABLISHED**
- **1971 – ICAO BEGINS ADDRESSING ENVIRONMENTAL ISSUES**
- **1997 – KYOTO PROTOCOL ADOPTED**
- **2001 – ICAO COMMITTEE ON AVIATION ENVIRONMENTAL PROTECTION (CAEP) FORMED**
- **2010s – RAPID AIRPORT EXPANSION WORLDWIDE**
- **2016 – CORSIA (CARBON OFFSETTING AND REDUCTION SCHEME FOR INTERNATIONAL AVIATION) LAUNCHED**
- **2020–2022 – COVID-19 PANDEMIC IMPACTS AVIATION**
- **2025–PRESENT – CONTINUED GLOBAL AIRPORT EXPANSION WITH SUSTAINABILITY FOCUS 2**

## **5. CURRENT SITUATION (2026)**

- **AIRPORT EXPANSION PLANS CONTINUE WORLDWIDE, E.G., HEATHROW'S £33 BILLION THIRD RUNWAY PROPOSAL RAISING COST AND CAPACITY QUESTIONS.**

- **AIR POLLUTION FROM AIRPORTS REMAINS A CONCERN; CALLS FOR BETTER AIR QUALITY MONITORING AROUND MAJOR AIRPORTS IN EUROPE.**
- **PASSENGER NUMBERS ARE INCREASING POST-PANDEMIC, WITH REGIONAL HUBS EXPANDING AND NEW INFRASTRUCTURE PROJECTS UNDERWAY (E.G., SRI LANKA).**
- **AIRPORT NOISE AND EMISSIONS ARE PUSHING AGAINST LOCAL ENVIRONMENTAL LIMITS IN SOME REGIONS (E.G., ZURICH AIRPORT FLIGHT MOVEMENT CONCERNS).**
- **ECONOMIC DEBATES ON AIRPORT VIABILITY AND IMPACT CONTINUE AT REGIONAL LEVELS, WITH CRITICISMS OF LOSS-MAKING AIRPORTS.**

## **6. KEY COUNTRY POSITIONS**

### **USA:**

- **SUPPORTS AIRPORT EXPANSION AND MODERNIZATION**
  - **EMPHASIZES SUSTAINABLE AVIATION FUEL (SAF) AND TECHNOLOGY TO REDUCE EMISSIONS**

### **GERMANY / FRANCE / UK:**

- **REQUIRE ENVIRONMENTAL IMPACT ASSESSMENTS (EIA) BEFORE EXPANSION**
- **FOCUS ON NOISE CONTROL, CARBON REDUCTION, AND COMMUNITY PROTECTION**

### **CHINA / INDIA / TÜRKIYE:**

- **RAPID AIRPORT EXPANSION TO MEET DEMAND**
  - **INCLUDE SOME SUSTAINABILITY MEASURES, BUT ECONOMIC GROWTH IS PRIORITIZED**

### **CANADA / JAPAN:**

- **PROMOTE GREEN TECHNOLOGIES AND SAF ADOPTION**
- **ALIGN WITH ICAO CLIMATE AND ENVIRONMENTAL STANDARDS**

### **3**

### **SMALL ISLAND AND DEVELOPING STATES:**

- **HIGHLIGHT CLIMATE AND ENVIRONMENTAL IMPACTS**

- **CALL FOR INTERNATIONAL SUPPORT, MITIGATION FUNDING, AND COMMUNITY PROTECTION**

## **7. CONCLUSION**

IN CONCLUSION, EXPANDING AIRPORT INFRASTRUCTURE WORLDWIDE OFFERS ECONOMIC AND CONNECTIVITY BENEFITS BUT ALSO CREATES SIGNIFICANT ENVIRONMENTAL AND HUMANITARIAN CHALLENGES. AIRPORTS CONTRIBUTE TO EMISSIONS, NOISE, AND ECOSYSTEM DISRUPTION, WHILE LOCAL COMMUNITIES CAN FACE DISPLACEMENT AND SOCIAL IMPACTS. COUNTRIES VARY IN APPROACH, WITH SOME PRIORITIZING GROWTH AND OTHERS EMPHASIZING SUSTAINABILITY AND COMMUNITY PROTECTION. COORDINATED INTERNATIONAL ACTION, INCLUDING ICAO STANDARDS, SUSTAINABLE AVIATION FUELS, AND ENVIRONMENTAL IMPACT ASSESSMENTS, IS ESSENTIAL TO ENSURE DEVELOPMENT IS BOTH RESPONSIBLE AND SUSTAINABLE.