



**EAST AFRICAN COMMUNITY
CIVIL AVIATION SAFETY AND SECURITY OVERSIGHT AGENCY**

EAC MITIGATION MEASURES AGAINST COVID-19 IMPACT ON CIVIL AVIATION

1.0 BACKGROUND

Following the outbreak of the COVID-19 global pandemic, a number of travel directives relating to restrictions and advisories on Air Transport were issued at State, Regional and Global level. ICAO through regular engagement with its stakeholders has encouraged and provided guidance to States and Regional Safety Oversight Organizations in taking measures for business continuity and continued civil aviation safety and security. The Agency has conducted an initial analysis of the effects of the COVID-19 pandemic and its impact on Civil Aviation in the EAC region and has proposed a number of mitigation measures that aim at supporting Partner States in managing the effects and resuming normal operations. In addition, the Agency through its Centre for Aviation Medicine (CAM) in partnership with Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH is in the process of conducting training at eight (8) International Airports in the Partner States as part of the mitigation measures.

2.0 RISK ANALYSIS AND MITIGATION MEASURES

The Agency took into consideration the threat of the global pandemic, COVID-19 as the Top Event and analysed its effects systematically using the Bow Tie approach.

The details of the risk analysis carried out by the Agency are shown below.

| HAZARD | CONTROL | | THREAT TOP EVENT | | UNDESIRE D EVENT | BARRIERS | ULTIMATE CONSEQUENCE | MITIGATION MEASURES |
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| H1: Reduced Air Transport Operations | C1: a) Change the mission of operation from Pax to Cargo, Charter, Medical evacuation, repatriation flights b) Seek for Government intervention, Engagement with all stakeholders and development partners for support and bail out | | Threat: Global Pandemic | | UE1: a) Reduced Air Traffic, Non-payment of leasing charges b) Inability to renew Licences, Approvals or Authorizations, for AOCs, AMOs, ATOs c) Exit of Service Providers | B1: a) Government interventions b) Tax waivers and Tax holidays c) Loan repayment holidays d) Renegotiating Leasing agreements e) Explore prospects for Airline Partnerships, code sharing and mergers f) Exemptions and Extensions on Licences/Certificates/Approvals/Authorizations g) Convert mission of operation from Pax to Cargo, | UC1: a) Loss of Revenue b) Lease disputes c) Bankruptcy d) Loss of Jobs e) Closure of Businesses f) Reduced Connectivity g) Expiration of licenses Certificates, Approvals, Authorizations for AOCs, AMOs, ATOs and Aerodromes. | M1: a) Seek Government intervention b) Tax waivers and Tax holidays c) Loan repayment holidays d) Renegotiating Leasing agreements e) Airline Partnerships, code sharing and mergers f) Reduce operational costs g) Exemptions and Extensions on Licences/Certificates/Approvals/Authorizations h) Establishment of robust Contingency plans for operators and service providers i) Change the mission of operation from Pax to Cargo, charter, Medical evacuation, repatriation flights j) Adoption of Unmanned Aircraft Systems. |

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| | | | | | charter, Medical evacuation, repatriation flights. | | |
| H2: Uneasiness to travel by Air Transport | C2: a) Sensitization, awareness creation for the travelling public and aviation personnel b) Air Transport Promotional incentives | | | UE2: Lower demand for Air Transport | B2: a) Vigorous advertisement b) Promotional activities c) Screening Protocols d) Airport Emergency response plans with emphasise on Public Health Emergencies e) Training of staff at Airports f) Aircraft cleaning and Cabin dis- infection | UC2: a) Slow recovery of Air Transport b) Low Passenger numbers c) Loss of revenue | M2: a) Industry Surveys b) Vigorous advertisement c) Promotional activities d) Enhanced Screening Protocols e) Enhance and amend Airport Emergency response plans with particular emphasis on Public Health Emergencies f) Training of staff at Airports g) Onsite rapid COVID-19 tests for Passenger h) Provision of protective barriers at passenger check-in desks including gloves, masks and hand sanitizers i) Limiting the provision and sharing of personal effects such as magazines, blankets and hearings devises on board an aircraft j) Modification of food and beverage packaging on |

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| | | | | | | | board an aircraft to minimize passenger and crew contact k) Aircraft cleaning and Cabin dis-infection before and after operation. |
| H3: Redundancy of Aviation Personnel | C3: a) Alternative assignments b) Internal capacity building c) Negotiate flexible terms of service | | | UE3: a) Layoffs, b) Loss of currency and competence c) High turnover of qualified and experienced personnel d) Demotivation and stress amongst personnel | B3: a) Exemptions and extensions on Personnel Licences/Certificates/Approvals/Authorizations b) Alternative assignments c) Internal capacity building for skills retention d) Negotiate flexible terms of service e) Counselling of employees. | UC3: a) Validity expiration of Licences/Certificates for Personnel b) Expiration of Training/Approvals/Authorizations c) Escalation of unavailability of qualified personnel. d) Loss of Expertise/Experienced Personnel e) Reduced recency experience and competency for personnel f) Negative psychological effects | M3: a) Renewal of and exemptions and extensions on Personnel Licences/Certificates/Approvals/Authorizations b) Recurrence training, Proficiency and skill checks c) Internal capacity building for skills retention d) Negotiate flexible terms of service, e) Counselling services |
| H4: Prolonged Parking of Aircraft and Equipment | C4: Scheduled Engine and system operation of aircraft on the ground as per | TE: COVID-19 Outbreak Disruption of Air Travel | | UE4: a) Degradation b) Malfunctioning c) Expired | B4: a) Compliance with adequate storage requirements | UC4: a) Disrupted Maintenance schedules b) Weather effects | M4: a) Corrective maintenance b) Update calibration of equipment |

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| | manufacturer's instructions | | | | d) calibration d) Structural damage e) Unserviceability of aircraft | &procedures b) Preventive maintenance, Manufacturers guidance and instructions c) Ground insurance | c) Vandalism and proliferation by rodents/insects/birds d) Expensive maintenance and repairs e) Expiration of Insurance f) Loss of revenue g) Expiration of Aircraft CoAs | c) Insurance renewals, d) Renewal of CoAs e) Compliance with storage and de-storage of aircraft requirements and procedures |
| H5: Redundancy of Airport & ANS Infrastructure/system | C5: a) Carry out infrastructure/system upgrade and major works as appropriate. b) Controlled and routine operations. | | | | UE5: a) Degradation b) Malfunctioning c) Expired calibration d) Unserviceability | B5: a) Compliance with maintenance requirements b) Additional Technical support | UC5: a) Disrupted Maintenance schedules b) degradation c) weather effects d) Expired calibration e) Loss of revenue | M5: a) Corrective maintenance, b) Update calibration of equipment c) Insurance renewals d) Renewal of Airport Certificates and Licences e) Financial waivers for Service Providers & other businesses at Airports f) Establishment of robust Contingency plans for ANS and Aerodrome Operators |
| H6: Reduced Aviation Safety and Security Oversight | C6: a) Conduct remote/offsite/desktop safety & security oversight activities | | | | UE6: a) Increased non-compliances with rules | B6: a) Conduct remote/offsite safety & security | UC6: a) Increased Air accidents and incidents, b) Non compliances | M6: a) Remote surveillance activities for example review of documentation, |

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| activities | <p>as appropriate,</p> <p>b) Coordination and collaboration between CAAs, RSOO and ICAO, online engagement of stakeholders and industry service providers</p> <p>c) Risk based surveillance and Inspection activities, develop appropriate Technical Guidance Materials</p> | | | <p>and procedures</p> <p>b) Slow rule making processes and promulgation thereof</p> <p>c) Reduced surveillance and resolution of safety and security concerns</p> <p>d) Lack of implementation of ICAO Critical Elements</p> | <p>oversight activities as appropriate</p> <p>b) Coordination and collaboration between CAAs, RSOO and ICAO</p> <p>c) Remote/ Online engagement of stakeholders and industry service providers</p> <p>d) Risk based surveillance and Inspection activities</p> <p>e) Development of appropriate rules and Technical Guidance Materials</p> | <p>with ICAO SARPs and amendments</p> <p>c) Low levels of Effective Implementation of applicable standards and requirements</p> <p>d) Acts of unlawful interference</p> | <p>procedures and evidence of activities etc.</p> <p>b) Distribution of checklists to operators and service providers to provide evidence of compliance with rules and procedures</p> <p>c) Audits conducted via teleconference and adjusted to the operations of the operators or service providers</p> <p>d) Hazard identification by service providers</p> <p>e) Exchange and sharing of lessons learned</p> <p>f) Establish and maintain adequate safety reporting systems put in place and used to help CAAs collect data</p> <p>g) CAAs to share these with other States and RSOO the useful information gathered and lessons learnt</p> <p>h) CAAs record key meetings and decisions taken when applying the safety management principles</p> |
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KEY:

B: Barrier: C: Control: H: Hazard: M: Mitigation measure: T: Threat: TE: Top Event: UE: Undesired Event: UC: Ultimate Consequence

2.1 HAZARD IDENTIFICATION

The following were identified as potential and existing hazards arising from COVID-19 pandemic:

- a) Reduced Air Transport Operations;
- b) Uneasiness to travel by Air Transport;
- c) Redundancy of Aviation Personnel;
- d) Prolonged parking of aircraft and equipment;
- e) Redundancy of airport & ANS infrastructure/system; and
- f) Reduced Aviation Safety and Security Oversight activities.

2.2 HAZARD CONTROLS

The following were identified as possible hazard controls that could be applied in order to stop the hazards from causing undesired events.

a) Controls for reduced Air Transport operations

- i) Change the mission of operation from passenger to cargo, charter, medical evacuation, repatriation flights;
- ii) Seek for government intervention; and
- iii) Engagement with all stakeholders and development partners for support and bail out.

b) Controls for uneasiness to travel by Air Transport

- i) Sensitization, awareness creation for the travelling public and aviation personnel;
- ii) Air Transport promotional incentives.

c) Controls redundancy of aviation personnel

- i) Alternative assignments;
- ii) Internal capacity building; and
- iii) Negotiate flexible terms of service

d) Control for prolonged parking of aircraft and equipment

- i) Scheduled engine and system operation of aircraft on the ground as per manufacturer's instructions

e) Control for redundancy of airport & ANS infrastructure/system

- i) Carry out infrastructure/system upgrade and major works as appropriate, Controlled and routine operations.

f) Controls for ineffective aviation Safety and Security Oversight activities

- i) Conduct remote/ offsite/desktop Safety & Security Oversight activities as appropriate;
- ii) Coordination and collaboration between CAAs, RSOO and ICAO;
- iii) Online engagement of stakeholders and industry service providers;
- iv) Risk based surveillance and Inspection activities; and
- v) Develop appropriate Technical Guidance Materials.
- vi)

2.3 UNDESIRED EVENTS

Where controls fail to capture the impact of the identified hazards, Undesired Events are likely to occur including the following:

a) Effects of reduced Air Transport operations

- i) Reduced air traffic;
- ii) Non-payment of leasing charges;
- iii) Inability to issue and renew licences/certificates/approvals/permits/authorizations for AOCs, AMOs, ATOs; and
- iv) Exit of service providers.

b) Effect of uneasiness to travel by Air Transport

- i) Lower demand for Air Transport.

c) Effect of redundancy of aviation personnel

- i) Staff layoffs;
- ii) Loss of currency and competence;
- iii) High turnover of qualified and experienced personnel; and
- iv) Demotivation and stress amongst personnel.

d) Effects of prolonged parking of aircraft and equipment

- i) Degradation of aircraft systems and equipment;
- ii) System and Instruments malfunctioning;
- iii) Expired calibration of aircraft instruments;
- iv) External and internal structural damage caused by corrosion; and
- v) Unserviceability of aircraft systems.

e) Effect of redundancy of airport & ANS infrastructure/system

- i) Degradation of airport infrastructure and CNS equipment and systems;
- ii) Malfunctioning of equipment and systems;
- iii) Expired calibration of navigation systems;
- iv) Unserviceability of equipment and systems; and
- v) Loss of revenue from inoperative businesses at the Airport.

f) Effects of ineffective aviation Safety and Security Oversight activities

- i) Increased non-compliances with rules and procedures;
- ii) Slow rule making processes and promulgation thereof;
- iii) Reduced surveillance and resolution of safety concerns; and
- iv) Lack of implementation of Critical Elements.

2.4 MITIGATION MEASURES

The following proposed mitigation measures may be adopted with the aim of minimizing the effects of the COVID-19 pandemic on civil aviation.

- a) Propose and seek government interventions to safeguard the industry;
- b) Propose and request tax waivers and tax holidays for operators;
- c) Request for loan repayment holidays and financial bailouts;
- d) Facilitation of renegotiating aircraft leasing agreements;

- e) Encourage airline partnerships, code sharing and mergers;
- f) Foster reduction in operational costs by operators and service providers;
- g) Consider issuance of exemptions and extensions on licences/certificates/approvals/permit/authorizations;
- h) Establish and implement robust contingency plans for operators and service providers;
- i) Support the conversion of operations from passenger to cargo where applicable;
- j) Support medical evacuation, repatriation flights by expediting the harmonization medical evacuation regulations as applicable;
- k) Adoption of Unmanned Aircraft Systems to support point to point flights;
- l) Industry surveys to assess the effects of pandemic;
- m) Encourage vigorous advertisement and promotional activities to support expeditious recovery of the industry;
- n) Enhanced Screening Protocols for passengers at airports;
- o) Enhance and amend Airport Emergency Response Plans with particular emphasis on handling of Public Health Emergencies;
- p) Enhance and amend operators and service providers Emergency Response Plans with particular emphasis on handling of Public Health Emergencies
- q) Training of staff at airports on national and airport emergency preparedness and response plans, public health capacities and prevention and surveillance of the spread of COVID-19;
- r) Renewal of and exemptions and extensions on personnel licences/certificates/approvals/permits/authorizations;
- s) Support recurrence training aviation personnel as applicable;
- t) Support proficiency and skill checks for flight crew;
- u) Encourage internal capacity building for skills retention;
- v) Promote negotiation of flexible terms of service;
- w) Support and promote counselling services to staff;
- x) Provide guidelines and requirements for corrective maintenance and recalibration of equipment;
- y) Provide guidelines and requirements for Insurance renewals;
- z) Renewals, extensions and exemptions for Aircraft Certificates of Airworthiness;
- aa) Provide guidelines for compliance with storage and de-storage of aircraft requirements and procedures;
- bb) Limit the provision and sharing of personal effects such as magazines, blankets and hearing devices on board an aircraft;
- cc) Support and encourage operators to modify food and beverage packaging on board an aircraft to minimize passenger and crew contact;
- dd) Aircraft cleaning and cabin disinfection before and after operation;
- ee) Provide guidelines and requirements for corrective maintenance and recalibration of equipment;
- ff) Encourage airport equipment Insurance renewals;
- gg) Carry out renewal of airport certificates, permits and Licences;
- hh) Seek and support financial waivers for service providers & other businesses at airports;
- ii) Establish and implement of robust contingency plans for ANS and aerodrome operators;
- jj) Establish and implement remote and desktop surveillance activities to review documents, procedures and evidence of activities such as operational and audit records, risk registers and Safety Performance Indicators;

- kk) Distribution of checklists to operators and service providers to provide evidence of compliance with and procedures;
- ll) Provide guidelines for the conduct of audits via teleconference and adjusted to the operations of the operators or service providers;
- mm) Hazard identification by service providers;
- nn) Promote the exchange and sharing of lessons learned from the COVID-19 relating to aviation operations;
- oo) Establish and maintain adequate safety reporting systems to collect data;
- pp) Encourage CAAs to share these with other States and RSOO the useful information gathered and lessons learnt; and
- qq) Encourage CAAs record key meetings and decisions taken when applying the safety management principles.

3.0 The summary provided above is meant to guide Partner States in the identification of hazards related to the COVID-19 pandemic and the development of the appropriate detailed mitigation measures. The Bow Tie tool can be used to capture the information provided in a more logical and clearer form. Although the information generated applies to the aviation industry at large, the specific areas of Safety and Security Oversight can be addressed with a similar approach.