



International  
Civil Aviation  
Organization

Organisation  
de l'aviation civile  
internationale

Organización  
de Aviación Civil  
Internacional

Международная  
организация  
гражданской  
авиации

منظمة الطيران  
المدني الدولي

国际民用  
航空组织

---

THE SECRETARY GENERAL

Ref.: E 2/1.7

3 June 2022

Ms. Heidi Schroderus-Fox  
Acting High Representative  
United Nations Office of the High Representative for  
the Least Developed Countries, Landlocked Developing  
Countries and Small Island Developing States  
Room S-3266  
United Nations  
New York, N.Y. 10017  
United States

Dear Ms. Schroderus-Fox,

I wish to refer to your letter dated 4 February 2022, reference OHRLLS-2022-00032, addressed to my predecessor, requesting the International Civil Aviation Organization (ICAO) to contribute to the report of the United Nations Secretary-General on the Implementation of the Vienna Programme of Action for Landlocked Developing Countries for the Decade 2014-2024.

I am pleased to provide herewith the ICAO contribution.

Yours sincerely,

Juan Carlos Salazar

**Enclosure**

# **IMPLEMENTATION OF THE VIENNA PROGRAMME OF ACTION FOR THE LANDLOCKED DEVELOPING COUNTRIES FOR THE DECADE 2014-2024**

INPUT FROM THE INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO)

## **I. Introduction**

With a contribution to 15 of the 17 of Sustainable Development Goals of the 2030 Agenda for Sustainable Development, aviation plays a pivotal role in providing global connectivity while improving people's lives worldwide by contributing to the global economic and social growth. Air connectivity is crucial as it enables tourism, business investments, and trade of goods, all of which contribute to the global economic and social development.

Air connectivity is a particularly essential lifeline for the Landlocked Developing Countries (LLDCs) through promoting tourism, trade and other vital business activities. Prior to the COVID-19 pandemic, air transport supported 2.7 million jobs and USD 20.9 billion in gross domestic product in LLDCs, and every person directly employed in the aviation sector and in tourism supported another 16 jobs elsewhere in LLDCs. Restoring air connectivity for all States will be critical in the months and years to come, and ICAO is working with all aviation stakeholders to make the international aviation system more resilient in the future, ensuring that the sector builds back better towards green transition.

In the beginning of the pandemic, the ICAO Council implemented the Council Aviation Recovery Task force (CART) to develop global guidance to make it possible for aviation to restart and recover, as well as providing support and targeted assistance to States in need under its No Country Left Behind (NCLB) initiative. Several documents were provided throughout the various phases of the pandemic in view of scientific and technological developments. These document included three high-level reports (containing 10 key principles for a safe, secure and sustainable recovery and a total of 20 recommendations) as well as guidance contained in four editions of the Take-off: Guidance for Air Travel through the COVID-19 Public Health Crisis document and three editions of the ICAO Manual on COVID-19 Cross-Border Risk Management.

The ICAO Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA) programme, which is a voluntary cross-sectorial, multi-organizational collaboration programme providing a collaborative framework between the aviation and public health sectors, assisted the CART with development of the guidance material. CAPSCA developed the Public Health Corridor Concept with the objectives of ensuring continued flight operations with minimal restrictions on aircraft operations, while mitigating the spread of COVID-19 and protecting the health and safety of crew and passengers. A further objective is to facilitate State discussions to ensure a coordinated approach with harmonized procedures and mitigation measures.

CAPSCA continues to monitor and update the guidance in keeping with the evolution of the pandemic as well as refining tools and customizing the tools in view of lessons learned to be applicable to future public health emergencies.

In October 2021, ICAO hosted a High-level Conference on COVID-19 under the theme “One Vision for Aviation Recovery, Resilience and Sustainability beyond the Global Pandemic”. The objective of the Conference was to reach a global consensus on a multilateral approach, supported by political will and commitments of States, to enable the safe and efficient recovery of aviation from the COVID-19 crisis and building a foundation to strengthen resilience in aviation and make it more sustainable in the future. The Conference concluded by a Ministerial Declaration of the High-level Conference on COVID-19 with the ultimate objective to “reconnect the world”.

Over the past two years, the world has suffered the unprecedented impact of the COVID-19 pandemic. The global economy has endured a tremendous shock, which has been felt in particular by the aviation sector. In the last few months, we have started to see the signs of a gradual recovery; a transition to the new normal with its own challenges and opportunities. Among several ICAO initiatives aimed at strengthening the means of implementation support and enhancing global partnership, necessitating enhanced coordination and collaboration amongst technical, operational and resource mobilization/partnerships entities within the ICAO Secretariat, is the ICAO Implementation Packages (iPacks) which were introduced with a view to assisting States, in the short-term, to address COVID-19 recovery efforts and, in the medium- and long-term, to support the implementation of new ICAO Standards and Recommended Practices (SARPs). The iPacks are unique tools to assist States facing challenges in closely defined and specific technical areas, particularly benefitting LLDCs. Since initiation of the project, over 30 iPacks have been deployed successfully, while more than 50 iPacks are being deployed primarily to Least Developed Countries, LLDCs and Small Island Developing States (SIDS). ICAO support is being provided in particular to these groups of vulnerable countries in the United Nations System in the short-term for their COVID-19 recovery efforts, and in the medium- and long-term to improve their level of implementation of the ICAO SARPs related to the aviation industry.

It is noteworthy to mention that, in 2021, ICAO organized a side event on the margins of the High-Level Political Forum on Sustainable Development to highlight the importance of a sustainable and resilient restart and recovery of civil aviation for the recovery of the global economy and the expansion of trade and tourism. The side event provided an opportunity to reflect on how aviation connected with and supported other industries, as well as the importance of restoring air connectivity for the recovery of many sectors of the economy in States, especially those in vulnerable situation, including LLDCs. ICAO also showcased how common objectives could be achieved through the leveraging of synergies and coordination of efforts across sectors, and by identifying vulnerabilities, recognizing opportunities for developing resilience, and addressing challenges in reconnecting the world and “building back better” during the Decade of Action.

### **Environment Initiatives**

In the interest of ICAO’s NCLB initiative, ICAO carries out a number of capacity-building and assistance activities, including LLDCs. These assistance activities are most often related to the [ICAO State Action Plan initiative](#), the [Carbon Offsetting and Reduction Scheme for International Aviation \(CORSA\)](#) and ICAO Buddy Partnerships on both topics.

### **ICAO – European Union (EU) project**

Since 2013, ICAO in partnership with the EU has provided capacity-building assistance to its Member States for the development of States’ Action Plans to mitigate CO<sub>2</sub> from international aviation under the ICAO Assistance Project with the EU Funding. Fully funded by the EU, the first phase of the Assistance Project supported 14 States from Africa and the Caribbean and the second phase is under implementation in 10 African States. Phase I concluded on 30 June 2019 achieved all its expected results and exceeding some of the initial targets. Phase II was launched in 2020 and will take place until 2023.

In phase 1, the following LLDCs were included: Burkina Faso, Burundi, Central African Republic and Chad. As a result of the project, all these States have submitted their State Action Plans and several direct environmental benefits were achieved in terms of CO<sub>2</sub> emissions reduction with the implementation of mitigation measures funded by the project.

One example was the implementation of Continuous Climb Operations (CCO) and Continuous Descent Operations (CDO) procedures that allow departing or arriving aircraft to climb or descend continuously, to the greatest extent possible, which saves fuel burn for the whole flight compared to a step-wise climb

or descent operations and consequently contributes to the reduction of CO<sub>2</sub> emissions. Burkina Faso was selected to receive support for the implementation of CCO and CDO procedures at the Ouagadougou International Airport, with expected CO<sub>2</sub> emissions reduction of 354 tCO<sub>2</sub>/year.

The ongoing phase II of the project included the following LLDCs: Rwanda, Botswana, Zimbabwe and Mali. This phase is already enabling good results once Botswana, Zimbabwe and Mali have submitted their State Action Plan in January 2022.

### **ICAO State Action Plan Buddy Programme**

In line with ICAO Resolution A40-18 paragraph 12, the ICAO State Action Plan Buddy Programme invites States that have already submitted their [State Action Plan on CO<sub>2</sub> Emissions Reduction Activities](#) to ICAO to partner with Member States that have not prepared their State Action Plans, in order to support those States. As of April 2022, the following LLDCs have received support from other States to prepare and submit their State Action Plans: North Macedonia, Zambia and Botswana.

States that have not yet developed, or are in the process of developing, a State Action Plan are also invited to inform ICAO of their interest in being matched with a Supporting State through the Buddy Programme.

### **ASSISTANCE, CAPACITY-BUILDING AND TRAINING (ACT) for the CORSIA (ACT-CORSIA)**

Upon adoption, in June 2018, of the CORSIA-related SARPs contained in Annex 16, Volume IV of the Convention on International Civil Aviation, the ICAO Council endorsed the ICAO ACT-CORSIA Programme, in recognition of the fact that a number of ICAO Member States, including LLDCs, would need targeted assistance in order to prepare for CORSIA implementation, especially taking into account that work on the monitoring, reporting and verification system in CORSIA started as early as 1 January 2019.

The ACT-CORSIA Programme is composed of various elements, which are intended to facilitate a better understanding and the access to information on CORSIA, including: the establishment of CORSIA Buddy Partnerships, the availability of model regulations, Frequently Asked Questions, brochures and leaflets, videos, materials used in the various CORSIA seminars and workshops, online tutorials, and other background information.

### **ICAO-UNDP Project**

The Global Environmental Facility funded, ICAO – United Nations Development Programme project, [Transforming the Global Aviation Sector: Emissions Reductions from International Aviation](#) was aimed at assisting developing States and SIDS in their challenges to reduce aviation emissions. It included the development of guidance documents and supporting mechanisms to assist the identification and implementation of measures to reduce aviation CO<sub>2</sub> emissions, as well as a practical pilot project in Jamaica, consisting of the implementation of a renewable energy project that could be replicated in other States.

### **Climate Change Adaptation**

ICAO has developed several guidance documents on climate change adaptation in response to the growing awareness about this topic. The latest document, that will be published in the first semester of 2022, is a guidance on Climate Risk Assessment and Adaptation, where particular consideration was given to impacts for SIDS.

The vulnerabilities facing SIDS make adaptation measures particularly important. Unfortunately, some of the factors contributing to greater vulnerability of aviation to climate change for SIDS also make adaptation measures challenging. For example, SIDS often have constraints on personnel, funding, and limited land and water resources. For SIDS considering adaptation measures, creative solutions, like remote technologies that do not depend on the availability or accessibility of local infrastructure may be particularly helpful.

The document recognizes specific climate change vulnerabilities that SIDS can face, especially due to storms and sea level rise, and provides an “adaptation menu” with different adaptation measures options, indicating the ones that may be critical for SIDS.

### **Suggested key recommendations from an aviation perspective**

- As we operate in a highly interconnected world with complex industries, post-COVID-19 recovery of the many sectors of the economy will rely heavily on air connectivity restoration, particularly in LLDCs. To this end, ICAO continues to support its Member States through its normative work, monitoring and oversight as well as implementation support activities.
- Considering the structural challenges of LLDCs in the transport field, aviation has great potential to connect LLDCs to the rest of the world by overcoming their geographical limitations and challenges. However, enhanced development and investment for aviation infrastructure, that is sustainable and efficient and connects with other modes of freight transport, is required in LLDCs to fully leverage their potential to connect their cities to global markets.
- Enhancing sustainable air transport systems through effective implementation of ICAO SARPs, policies and guidance material, while at the same time including and elevating the priority of the aviation sector into national development plans supported by robust air transport sector strategic plans and civil aviation master plans, remains key and contributes to the achievement of the goals of the Vienna Programme of Action.
- Continuous promotion of liberalization of air transport remains crucial for unleashing economic and social benefits of aviation for States. The *ICAO long-term vision for international air transport liberalization* invites ICAO Member States to actively pursue the continuous liberalization of international air transport to the benefit of all stakeholders and the economy at large, while continuing to be guided by the need to ensure respect for the highest levels of safety and security and the principle of fair and equal opportunity for all States and their stakeholders.
- As the custodian agency of global indicator 9.1.2 Passenger and Freight Volumes, by Mode of Transport, ICAO provides the indicator for different regional groupings, including specifically for LLDCs, which is in turn used by the UN to monitor progress for those States. The data and analysis ICAO provides are reflected in the annual global SDG progress report and in the online UN platform for monitoring the progress towards the SDGs.
- ICAO is also developing the [Aviation Satellite Account \(ASA\) methodological framework](#), which is designed to enable States including LLDCs to measure the direct economic contribution of aviation to their economy. The ICAO ASA framework provides internationally-agreed standard for the economic measurement of aviation’s activity, which will help in better understanding of the sector’s importance for the LLDCs. ICAO plays a central role with regard to the international harmonization and comparability of economic data related to aviation activities.

- Stronger partnership and resource mobilization activities should be prioritized in light of the Sustainable Development Goal 17, in order to address the financial challenges needed for development and enhancement of air transport infrastructure in LLDCs.

### **III. Status of implementation of the priorities of the Vienna Programme of Action**

ICAO through its Technical Cooperation Bureau (TCB) is implementing civil aviation bilateral projects (ICAO-State) in some of the States included in the Vienna Programme of Action as well as providing administrative support to the respective ICAO Regional Offices, managing regional projects (ICAO-multiple States in the region) that could also involve some of the referred States. It is important to highlight that although these projects are not directly aligned to the Vienna Programme of Action, they contribute to the strengthening of the civil aviation institutions, infrastructure and oversight capabilities. During 2021, a number of bilateral projects were implemented in some LLDCs through TCB with a wide range of objectives, commensurate with their specific levels of aviation activity. LLDCs also participated in a number of regional and sub-regional projects, as detailed below.

Additionally, in response to the challenges brought about by the COVID-19 pandemic, TCB, in cooperation with the Air Navigation Bureau (ANB), the Air Transport Bureau (ATB) and the Regional Offices, developed [iPacks](#). The purpose of the iPacks is to support Member States in addressing the various needs related to the movement of goods and health of passengers during the pandemic, taking into consideration public health-related measures, facilitation and aviation security, aviation safety (e.g. management of temporary regulatory alleviations), risk management, and air transport and economics. Several iPacks were deployed in LLDCs.

#### **1. BILATERAL PROJECTS**

##### **AFGHANISTAN**

TCB is assisting the Ministry of Transport and Civil Aviation in the repair and the provision of new parts for navigational aids. However, due to the political situation, the shipping of the damaged parts that require repairs is on hold and the possibility to ship the new parts through Qatar is being evaluated by the supplier.

##### **BOLIVIA (PLURINATIONAL STATE OF)**

Continued assistance was provided to support the transition of national personnel towards their full integration and recruitment under the Civil Aviation Authority (CAA) of Bolivia (Plurinational State of). A national operational safety plan 2021-2025 was prepared by this project's national personnel. Assistance was also provided through the recruitment of an airworthiness (AIR) expert to enhance the skills of nine technical staff of the Dirección General de Aeronáutica Civil (DGAC) who are in charge of the ICAO Coordinated Validation Mission, and an accident investigation and prevention (AIG) expert to provide an on-the-job training course to nine DGAC staff. Training was provided to five personnel of the Air Navigation Directorate on the aeronautical information exchange model. Workshops on air safety risk management were made available to seven personnel from the Directorate of Operational Safety and four air navigation personnel participated in a Latin American Aviation Regulations (LARs) 145/43 Update Course/Workshop. In addition, assistance was provided to the representation of Bolivia (Plurinational State of) on the ICAO Council.

Assistance was also provided to Bolivia (Plurinational State of) through the deployment of the iPack - Aviation Safety Risk Management related to COVID-19 for CAAs to facilitate and guide CAAs in applying safety risk management principles to improve decision-making to address COVID-19 pandemic challenges and support safe aircraft operations. After the successful implementation of this iPack, the

CAA of Bolivia (Plurinational State of) is better equipped to: improve the effectiveness of remote collaboration, coordination and communication among the stakeholders involved in addressing the pandemic; improve the use of safety data and information to support decision-making for the restart of aviation activities; increase its capability to assess the priorities during the COVID-19 pandemic and plan for the restart of aviation operations; increase the State's capability to appropriately apply safety risk mitigations; improve strategies for planning and conducting surveillance using a risk-based approach; and achieve progress in the implementation and maturity of the State Safety Programme (SSP).

From the training perspective, the ICAO Global Aviation Training (GAT) Section has one TRAINAIR PLUS Programme (TPP) Member in Bolivia (Plurinational State of) since 2013: the *Instituto Nacional de Aviación Civil*, which developed one ICAO-recognized course and delivered four ICAO courses for a total of 51 trainees.

## **BHUTAN**

Assistance was provided through the deployment of the iPack - COVID-19 Aviation Security Quality Control Oversight to build and strengthen the State's ability to meet obligations for civil aviation security under the Convention on International Civil Aviation and to facilitate and guide appropriate aviation security authorities monitoring the implementation of measures to protect civil aviation against acts of unlawful interference during the COVID-19 pandemic. After having successfully deployed this iPack, aviation security authorities and other relevant entities in charge of overseeing the implementation of security measures, and drafting national regulations and/or procedures for implementing ICAO Annex 17 provisions are better equipped to: improve the State's capability to apply risk management principles and manage aviation security risks during the COVID-19 pandemic; update the State's quality control programme and procedures to reflect the national documentation that may have been amended by issuing temporary directives due to the COVID-19 pandemic; improve strategies for planning and conducting aviation security monitoring activities using a risk-based approach; and develop and implement quality control tools to assist in strengthening their aviation security system during the COVID-19 pandemic.

## **ESWATINI**

Assistance was also provided through the deployment of the iPack - Strengthening National Air Transport Facilitation Committees for the Restart and the Resilience of Civil Aviation to apply ICAO Annex 9 provisions for the establishment and operation of a resilient and robust National Facilitation Committee in cooperation with all stakeholders, including public health authorities with remote communication protocols in response to pandemics. After having successfully deployed this iPack, CAAs and/or lead agencies in charge of coordinating, drafting, and implementing the National Air Transport Facilitation Programme (NATFP) are better equipped to develop or review and update existing national provisions related to the establishment of an NATFP; develop or review and update existing national provisions for the establishment of National Air Transport Facilitation Committees (NATFC) and Airport Facilitation Committees (AFC); establish a reporting and coordination mechanism between the CAA and other involved key stakeholders in light of the COVID-19 pandemic; make progress in the implementation of the NATFP; and draft an action plan for the implementation of the NATFP, if required.

## **ETHIOPIA**

Assistance was provided to the Ethiopian CAA in the procurement of aviation equipment and/or services and the related administrative and technical aspects, as required. The installation of multilateration terminal surveillance systems and advanced surface movement guidance and control systems in multiple sites were finalized. However, some deficiencies were identified during the site acceptance test of the equipment which are being rectified by the supplier.

From the training perspective, the GAT Section has one TPP Member in Ethiopia since 2013: the Ethiopian Aviation Academy, which developed eight ICAO-recognized courses and delivered 47 ICAO courses for a total of 372 trainees.

## **LAO PEOPLE'S DEMOCRATIC REPUBLIC**

Assistance was provided through the deployment of the iPack – Strengthening National Air Transport Facilitation Committees for the Restart and the Resilience of Civil Aviation to apply ICAO Annex 9 provisions for the establishment and operation of a resilient and robust National Facilitation Committee in cooperation with all stakeholders, including public health authorities with remote communication protocols in response to pandemics. After having successfully deployed this iPack, CAAs and/or lead agencies in charge of coordinating, drafting, and implementing the NATFP are better equipped to develop or review and update existing national provisions related to the establishment of an NATFP; develop or review and update existing national provisions for the establishment of NATFC and AFC; establish a reporting and coordination mechanism between the CAA and other involved key stakeholders in light of the COVID-19 pandemic; make progress in the implementation of the NATFP; and draft an action plan for the implementation of the NATFP, if required.

## **MALAWI**

Assistance was provided to the Malawi Department of Civil Aviation through the deployment of the iPack - Strengthening National Air Transport Facilitation Committees for the Restart and the Resilience of Civil Aviation to apply ICAO Annex 9 provisions for the establishment and operation of a resilient and robust National Facilitation Committee in cooperation with all stakeholders, including public health authorities with remote communication protocols in response to pandemics. After having successfully deployed this iPack, CAAs and/or lead agencies in charge of coordinating, drafting, and implementing the NATFP are better equipped to develop or review and update existing national provisions related to the establishment of an NATFP; develop or review and update existing national provisions for the establishment of NATFC and AFC; establish a reporting and coordination mechanism between the CAA and other involved key stakeholders in light of the COVID-19 pandemic; make progress in the implementation of the NATFP; and draft an action plan for the implementation of the NATFP, if required.

## **NEPAL**

Technical assistance was provided to the Civil Aviation Authority of Nepal (CAAN) in the development of an action plan for the separation of the air navigation services provider functions and the aerodrome operator functions from the regulatory body and through the deployment of the iPack - Aviation Safety Risk Management related to COVID-19 for CAAs to facilitate and guide the CAAN in applying safety risk management principles to improve decisions making to address COVID-19 challenges and support safe aircraft operations. After the successful implementation of this iPack, the CAAN is better equipped to improve the effectiveness of remote collaboration, coordination and communication among the stakeholders involved in addressing the pandemic and improve the use of safety data and information to support decision-making for the restart of aviation activities; increase its capability to assess the priorities during the COVID-19 pandemic and plan for the restart of aviation operations; increase the State's capability to appropriately apply safety risk mitigations; improve strategies for planning and conducting surveillance using a risk-based approach; and achieve progress in the implementation and maturity of the SSP.

## **PARAGUAY**

Assistance is provided to the National Civil Aviation Directorate (DINAC) of Paraguay in the strengthening of the administrative and technical management of airport services, the revision of the



organizational structure and legal framework of DINAC, the supervision and management of the improvements to the Silvio Pettirossi International Airport (AISP), a pre-feasibility and a feasibility studies and the development of a master plan to enhance the air terminal building and associated aeronautical services, as well as the supervision of civil works. During 2021, ICAO continued to provide assistance for the modernization of the AISP through the preparation, issuance and award of a tender for airport landside design. The contract for the design of the total rehabilitation of the airport airside was completed. National personnel continued to be hired through the project to support the work being undertaken in the modernization of the airport. ICAO also assisted DINAC in the consolidation of its technical, operational and managerial capacities in the areas of development of national strategies and policies, economic development of air transport, and the effective management of airport and air navigation services. In 2021, ICAO provided DINAC with an analysis of the air navigation system and an action plan to remedy the identified deficiencies.

Paraguay also received assistance through the deployment of the iPack - COVID-19 Aviation Security Quality Control Oversight to build and strengthen its ability to meet obligations for civil aviation security under the Convention on International Civil Aviation and to facilitate and guide appropriate aviation security authorities monitoring the implementation of measures to protect civil aviation against acts of unlawful interference during the COVID-19 pandemic. After having successfully deployed this iPack, aviation security authorities and other relevant entities in charge of overseeing the implementation of security measures, and drafting national regulations and/or procedures for implementing ICAO Annex 17 provisions are better equipped to: improve the State's capability to apply risk management principles and manage aviation security risks during the COVID-19 pandemic; update the State's quality control programme and procedures to reflect the national documentation that may have been amended by issuing temporary directives due to the COVID-19 pandemic; improve strategies for planning and conducting aviation security monitoring activities using a risk-based approach; and develop and implement quality control tools to assist in strengthening their aviation security system during the COVID-19 pandemic.

From the training perspective, the GAT Section has one TPP Member in Paraguay since 2017: *Instituto Nacional de Aeronáutica Civil*, which developed two ICAO-recognized course and delivered 16 ICAO courses for a total of 259 trainees.

## **REPUBLIC OF MOLDOVA**

Assistance was provided through the deployment of the iPack - Strengthening National Air Transport Facilitation Committees for the Restart and the Resilience of Civil Aviation to apply ICAO Annex 9 provisions for the establishment and operation of a resilient and robust National Facilitation Committee in cooperation with all stakeholders, including public health authorities with remote communication protocols in response to pandemics. After having successfully deployed this iPack, CAAs and/or lead agencies in charge of coordinating, drafting, and implementing the NATFP are better equipped to develop or review and update existing national provisions related to the establishment of an NATFP; develop or review and update existing national provisions for the establishment of NATFC and AFC; establish a reporting and coordination mechanism between the CAA and other involved key stakeholders in light of the COVID-19 pandemic; make progress in the implementation of the NATFP; and draft an action plan for the implementation of the NATFP, if required.

## **ZIMBABWE**

Assistance was provided through the deployment of the iPack - COVID-19 Aviation Security Quality Control Oversight to build and strengthen the State's ability to meet obligations for civil aviation security under the Convention on International Civil Aviation and to facilitate and guide appropriate aviation security authorities monitoring the implementation of measures to protect civil aviation against acts of unlawful interference during the COVID-19 pandemic. After having successfully deployed this iPack,

aviation security authorities and other relevant entities in charge of overseeing the implementation of security measures, and drafting national regulations and/or procedures for implementing ICAO Annex 17 provisions are better equipped to: improve the State's capability to apply risk management principles and manage aviation security risks during the COVID-19 pandemic; update the State's quality control programme and procedures to reflect the national documentation that may have been amended by issuing temporary directives due to the COVID-19 pandemic; improve strategies for planning and conducting aviation security monitoring activities using a risk-based approach; and develop and implement quality control tools to assist in strengthening their aviation security system during the COVID-19 pandemic.

## **2. REGIONAL/SUB-REGIONAL PROJECTS**

### **AFRICA**

In the Africa and Indian Ocean regions, a number of safety-related sub-regional and regional projects are being implemented with the participation of a number of LLDCs.

Since 2011, the Agency for the Safety Air Navigation Safety in Africa and Madagascar (ASECNA), which also includes Burkina Faso, Central African Republic, Chad, Mali, and Niger, has been participating in a regional project for the procurement of monopulse secondary surveillance radar systems with Mode S functionality and air traffic management (ATM) systems to support area, approach and tower air traffic control operations and related services including all necessary civil works to be supplied to ASECNA within the framework of its surveillance extension project. The factory re-testing of the Bangui, Central African Republic, radar was completed and the civil works for the installation of the radar are ongoing.

Since 2013, assistance is being provided to the Satellite Network Management Committee Member States and Organizations, i.e. ASECNA, the Ghana CAA, the Nigerian Airspace Management Agency and the Roberts Flight Information Region (FIR) for the enhancement of the Africa-Indian Ocean Region Satellite Network (AFISNET). In 2021, the technical specifications for the AFISNET re-engineering and modernization were finalized and the funds mobilization exercise resumed. However, no additional activities were carried out by the Members during the year due to the impact of the COVID-19 pandemic.

Assistance is being provided to the Economic Community of West African States and the Economic Community of Central African States (ECCAS) states since 2019 through five projects funded by African Development Bank under the *Projet d'Appui au Secteur du Transport Aérien en Afrique Centrale et Occidentale* framework. Assistance is also provided to the Regional Safety Oversight Organization of Central Africa (Agence de Supervision de la Sécurité Aérienne en Afrique Centrale – ASSA-AC) through the recruitment of technical staff and the development of a roadmap for the short term activities. In 2021, Assistance was provided to ECCAS with the recruitment of ASSA-AC personnel through the development of a shortlist of candidates. The ASSA-AC operationalization road map was completed and the project terminal report released.

Botswana, Burkina Faso, Central African Republic, Chad, Eswatini, Mali, Niger, Uganda and Zimbabwe participate in the African Flight Procedure Programme project with an aim to develop sustainable capability in the instrument flight procedure (IFP) domain to meet the States' commitments under Assembly Resolution A37-11 for performance-based navigation (PBN) implementation and their obligations for the quality of their IFPs. In 2021, flight validation pilots training was delivered to 14 participants from 11 States. Procedures for Air Navigation Services — Aircraft Operations (PANS-OPS) flight procedure design training for CAAs was delivered to 46 participants from 15 States. Workshops were delivered to 102 participants from 25 States on national PBN airspace design and to 97 participants from 22 States on quality assurance. On-the-job training on PBN flight procedure design was delivered to eight national staff from two States. Assistance was provided to the Roberts FIR in airspace organization,

to Uganda for parallel routes implementation, to Eswatini on national PBN implementation plan development. Assistance was also provided to Eswatini on safety studies for instrument flight procedure implementation and to the Roberts FIR for the publication of the PBN flight procedures of Conakry (Guinea). The new approach in standard instrument departure/standard terminal arrival route procedures, using the CCO/CDO techniques, were implemented. Related PBN awareness and concept of operations trainings were delivered to 17 national staff from Guinea and to four participants from Member States of the Roberts FIR.

In 2017, Botswana together with Cabo Verde, Cameroon, Côte d'Ivoire, Gambia and Nigeria established the project Cooperative Development of Aeronautical Meteorology Services in the Africa-Indian Ocean (AFI) Region. The project objective is to continue enhancing the capability of the Member States' regulatory authorities in carrying out safety oversight of aeronautical meteorology (MET) services through the adoption of a comprehensive system-approach and to establish a basic and on-demand system to assist MET service providers to achieve compliance with international aviation safety standards. The Second Steering Committee of the Cooperative Development of Aeronautical Meteorology Services Project in AFI Region on 23 July 2021 approved the updated Project Document and Management Service Agreement, including the revision of the work plan.

From the training perspective, the GAT Section has nine TPP Members in the Eastern and Southern Africa Region which developed 17 ICAO-recognized courses and delivered 199 ICAO courses for a total of 2,146 trainees, and seven TPP Members in the Western and Central Africa Region which developed 13 ICAO-recognized courses and delivered 218 ICAO courses for a total of 2,517 trainees.

## **AMERICAS**

In the Americas region, a number of regional projects aimed at enhancing cooperation and coordination among developing countries in the fields of Safety Oversight, Communications, Navigation and Surveillance/Air Traffic Management (CNS/ATM), and Global Air Navigation Plan initiatives, have been implemented with the participation of some LLDCs.

Bolivia (Plurinational State of) and Paraguay are active members of the Regional Safety Oversight System project, in which the main objective is to establish and operate a regional safety oversight system with the required technical, logistical and administrative support. In 2021, continued assistance in the area of safety was provided to 12 States by maintaining the set of 48 LARs and the updating of associate documentation. These 48 LARs cover Annex 1 – Personnel Licensing, Annex 2 – Rules of the Air, Annex 3 – Meteorological Service for International Air Navigation, Annex 4 – Aeronautical Charts, Annex 6 – Operation of Aircraft, Annex 7 – Aircraft Nationality and Registration Marks, Annex 8 – Airworthiness of Aircraft, Annex 10 – Aeronautical Telecommunications, Annex 11 – Air Traffic Services, Annex 12 – Search and Rescue, Annex 14 – Aerodromes, Annex 15 – Aeronautical Information Services, Annex 16 – Environmental Protection, Annex 18 – The Safe Transport of Dangerous Goods by Air and Annex 19 – Safety Management. Twenty training courses in the areas of flight operations (OPS), AIR, personal licensing (PEL), air navigation services (ANS) and aerodromes and ground aids (AGA) were delivered to 555 participants from 13 States and five working meetings to discuss LARs and procedures were conducted with the participation of 60 attendees. Assistance was provided to Bolivia (Plurinational State of), Colombia, Panama, Paraguay and Peru in the areas of OPS, PEL, AIR, AGA and ANS, as well as through four multinational activities in processes.

Bolivia (Plurinational State of) and Paraguay continued their participation in another regional project aimed at managing the South American (SAM) Digital Network (REDDIG) and the communications, navigation and surveillance (CNS) digital network in the Caribbean and South American Regions, which supports aeronautical telecommunications services within the Region. In 2021, continued assistance was provided to efficiently manage the REDDIG II network and achieve high availability (around 99.98%) in

the functioning of the regional digital network. The procurement process for the acquisition of new nodes (Cochabamba, Bolivia (Plurinational State of)), Johannesburg, South Africa), was completed and coordination for another node (Madrid, Spain) has been initiated. Two important meetings were held in March and August 2021 to coordinate technical, operational and administrative matters related to the REDDIG II with the participation of 69 attendees from 14 Member States.

The third regional project in which Bolivia (Plurinational State of) and Paraguay are active members aims at developing and implementing Global Air Navigation Plan initiatives to: 1) lead the transition from an ATM system based on ground aids to a system based on aircraft performance; 2) the implementation of aeronautical information services quality assurance and safety management systems; and 3) the development of a strategy for the implementation and integration of automated ATM systems in the Caribbean and South American (CAR/SAM) Region to facilitate the exchange of information and collaborative decision-making with respect to all components of the ATM system. In 2021, assistance was provided through the delivery of four training courses for a total of 1 031 participants from 15 States in the areas of ATM, communications, CNS, aeronautical information management (AIM) and MET, and six working meetings for a total of 433 participants from 11 States and industries to discuss issues related to the implementation activities for the regional air navigation plan, the implementation of the South American airspace/CONOPS and the establishment of the Study Group on Implementation of SAM Airspace, aeronautical message handling system, South American Regional Office interoperability and the implementation of airport collaborative decision-making in the Region. A draft Regional Training Guide for AIM was developed and a contract for receiver autonomous integrity monitoring services for a period of four years was signed.

## **ASIA-PACIFIC**

In the Asia and the Pacific region, a number of sub-regional and regional projects aimed at enhancing cooperation, coordination and greater harmonization among developing countries in the fields of safety oversight, aviation security, CNS/ATM implementation, and prevention and management of public health events in civil aviation, have been implemented with the participation of some LLDCs.

Afghanistan, Bhutan and Nepal continued their participation in the Cooperative Development of Operational Safety and Continuing Airworthiness Programme in South Asia (COSCAP-SA). The 28th COSCAP-SA Steering Committee Meeting (SCM), was successfully held virtually on 19 and 20 January 2021, with the participation of all Member States. The meetings of the Asia Pacific Regional Aviation Safety Team and Regional Aviation Safety Group were attended by the COSCAP-SA to provide inputs as required. Two long-term agreements for the provision of core technical courses in the areas of initial AIR and initial PEL were converted into virtual courses. Several longer-term classroom courses were converted into virtual courses to accommodate participants during the pandemic situation. These courses focused mostly on initial training and recurrent training in the areas of aerodrome certification and inspection, safety assessment of foreign aircraft for flight operations (OPS) and AIR, flight operations inspector, airworthiness inspector, ANS, ATM, search and rescue, CNS, AIM, cartography, meteorology, PEL, global reporting format recurrent, audit techniques (general) and cabin safety. Multiple virtual technical assistance missions were provided to Bhutan to assist in the resolution of their significant safety concerns in ANS. Regular workshops were also conducted with Bhutan for the development of their new regulations in OPS and flight crew licensing. Regular technical assistance was provided throughout the year to Member States with regard to the ICAO “targeted exemptions”. The COSCAP-SA also participated on the Asia-Pacific Regional COVID-19 task force to provide input as required. The COSCAP-SA office was relocated from Bhutan to Maldives in September 2021. Two experts in ANS and AGA joined the COSCAP-SA office in Maldives. The two experts developed their work plans in order to provide priority technical assistance to Bangladesh, Bhutan, Maldives, Nepal and Pakistan.

Bhutan, Lao People's Democratic Republic, Mongolia and Nepal participate in the Cooperative Aviation Security Programme – Asia-Pacific (CASP-AP), a regional structure for cooperation and coordination in aviation security matters and training of aviation security personnel in the Asia and the Pacific region. The project aims at ensuring compliance with international Conventions, ICAO SARPs and guidance material related to aviation security by enhancing the aviation security capabilities of the Programme's participating Members. Due to the COVID-19 pandemic and associated travel restrictions, international specialized technical assistance missions to assist Member States were not possible during 2021. The CASP-AP Model National and Airport Level Programmes and associated training materials have been updated to incorporate the latest Amendment 17 to Annex 17 – Security. Remote online assistance has provided mentoring and guidance support to Member States with respect to the Universal Security Audit Programme Continuous Monitoring Approach (USAP CMA), development of national plans to implement the ICAO Global Aviation Security Plan, development of national aviation security risk context statements and for quality control phase II (QC Phase II).

Lao People's Democratic Republic, Mongolia and Nepal participate in the Asia-Pacific Flight Procedure Programme (FPP) as user members and benefited from the training courses provided. The Twelfth SCM of Asia-Pacific Flight Procedure Programme (APAC FPP) approved the extension to Phase 4 and related Programme Document for the period January 2021 to December 2023. The FPP in-house instructors assisted in flight procedures design, ground validation and consulting for China, Nepal and Fiji in 2021. Through the programme, six flight procedure design online training courses, namely, the procedure design refresher course, the PBN procedure design course, the procedure design quality assurance workshop, the required navigation performance-authorization required workshop, the procedure design seminar and the PANS-OPS initial course, were provided to a total of 249 participants from 18 FPP Member States. All the above trainings were conducted online through an innovative combination that included a reformatted web-specific training framework, e-learning system, including pre-test, online homework, quiz, final examination, electronic certificate, etc.

Mongolia has also been an active member of the regional project for a Cooperative Development of Operational Safety and Continuing Airworthiness Programme – North Asia (COSCAP-NA). The absence of the Chief, Technical Advisor/Programme Coordinator has significantly impacted the normal operations and productivity of the programme. However, through extensive collaboration with the Cooperative Development of Operational Safety and Continuing Airworthiness Programme – South-East Asia (COSCAP-SEA) and the COSCAP-SA, COSCAP-NA was able to fulfil part of its capacity building responsibilities and a total of 52 COSCAP-NA participants attended the AIG webinar, the Universal Safety Oversight Audit Programme (USOAP) updates webinar, the ANS virtual course, the European Co-ordination Centre for Accident and Incident Reporting Systems webinar, a workshop on safety management for the return of aircraft after long periods of parking or storage, a workshop on safety management for an exemption to the flight safety standards, an ATM search and rescue inspector course, a flight data analysis course and a CNS inspector course organized by COSCAP-SA and COSCAP-SEA. In addition, the official website of the COSCAP-NA was transferred to the ICAO APAC Regional Office website along with the other regional Technical Cooperation Programmes.

Lao People's Democratic Republic participates in the COSCAP-SEA project. The objectives of the project are to enhance the safety and efficiency of air transport operations in the region and the training and professional development of national inspectors; harmonize policies and regulations; provide certification and inspection assistance to States currently unable to meet regulatory obligations; coordinate technical assistance programmes; and creation of a regional aviation safety team to implement globally developed solutions for safety concerns. COSCAP-SEA has successfully transitioned to its Phase V (July 2021 to June 2026) with a new collaborative, a State-centred, risk-based and result-oriented approach to enhance Member States' safety oversight, investigation and safety management capabilities, in line with the Global Aviation Safety Plan and the Asia-Pacific Regional Aviation Safety Plan (AP-RASP). All activities were conducted through the use of virtual platforms which enabled the project to

train more than 1 000 experts from January to September 2021. These activities included technical support in the areas of legislation, organization, personnel licensing, aircraft operations, airworthiness, air navigation services and aerodromes, as well as in aircraft accident and incident investigation, and safety management and training courses, workshops or webinars covering the areas of auditing techniques, collaborative safety management for aircraft return to service after a long period of parking or storage, collaborative safety management for managing exemptions to flight safety-related Standards, continuing airworthiness management, developing a national aviation safety plan, flight data monitoring/flight data analysis programme, electronic flight bag, global reporting format, safety management, safety oversight for the transport of dangerous goods by air, PBN operational approvals, ATM safety assessments, aircraft accident and incident investigation management, flight recorder readout, USOAP CMA and International Air Transport Association (IATA) Operational Safety Audit. During 2021, COSCAP-SEA benefitted from the increased engagement of, and closer collaboration with, key partners (including Australia, France, United Kingdom, United States, European Union Aviation Safety Agency, IATA, International Federation of Air Line Pilots' Associations, Airbus and the Boeing Company), resulting in more support for Member States and enhanced efficiency for the programme. Under the framework of the cooperation between the three COSCAPs established in Asia, COSCAP-SEA invited personnel from Member States of COSCAP-NA and COSCAP-SA to most of its regional training activities conducted in 2021.

From the training perspective, the GAT Section has 27 TPP Members in the Asia/Pacific Region which developed 87 ICAO-recognized courses and delivered 580 ICAO courses for a total of 6391 trainees.

## **EUROPE**

In the Europe and Middle East regions, a number of safety-related regional projects are being implemented with the participation of a number of LLDCs. Armenia, Azerbaijan, Kazakhstan, Kyrgyzstan, Republic of Moldova, Tajikistan, Turkmenistan, and Uzbekistan are participating in a regional project which main purpose is to enhance the safety oversight capabilities of participating States by establishing a regional flight safety training/advisory centre at the Interstate Aviation Committee; providing assistance in overcoming deficiencies, as well as training to national inspectors; and harmonizing national aeronautical legislation. In 2021, webinars and workshops were attended by a total of 397 participants from 10 States and covered, inter alia, topics related to the preparation and implementation of a plan for COVID-19 vaccines to be delivered by air, aircraft AIG and working together to support a safe and sustainable aviation restart. Assistance was also provided in the update of the manual on aeroplane protection from icing on the ground.

From the training perspective, the GAT Section has 13 TPP Members in the European and North Atlantic Region which developed 32 ICAO-recognized courses and delivered 285 ICAO courses for a total of 2227 trainees.

— END —