



ASSEMBLY — 42ND SESSION

EXECUTIVE COMMITTEE

Agenda Item 16: Environmental Protection – International Aviation and Climate Change

ASSISTANCE AND CAPACITY-BUILDING FOR AVIATION SECTOR ADAPTATION TO CLIMATE CHANGE AND ITS POTENTIAL IMPACT ON THE SUSTAINABILITY OF INTERNATIONAL AIR TRANSPORT

(Presented by Venezuela (the Bolivarian Republic of) and supported by 15 Latin American Civil Aviation Commission (LACAC) Member States²)

EXECUTIVE SUMMARY

The United Nations Framework Convention on Climate Change (UNFCCC) and its various instruments set out measures to mitigate greenhouse gases (GHGs) and measures that include adequate adaptation to climate change. The International Civil Aviation Organization (ICAO) has developed and implemented several instruments for States to adopt to mitigate GHGs. However, guidance and guidelines have not been made available to help them develop adaptation plans to address the possible impacts on the sustainable development of aviation of a variety of extreme weather events that will affect air transport, particularly in developing countries.

Action: The Assembly is invited to:

- request ICAO to conduct studies to determine the impact of climate change on the aviation sector;
- request ICAO to develop guidance material that will enable States to develop their own risk-based aviation adaptation plans;
- exhort ICAO to provide capacity building assistance to States to develop adaptation plans for the aviation sector; and
- encourage countries to share their experiences on climate change adaptation studies and actions for aviation.

<i>Strategic Goals:</i>	This working paper relates to the Strategic Goal – <i>Aviation is Environmentally Sustainable</i> .
<i>Financial implications:</i>	The activities referred to in this paper will be undertaken subject to availability of resources from the Regular Programme Budget and/or extrabudgetary contributions.
<i>References:</i>	

¹ Spanish version provided by Venezuela (the Bolivarian Republic of).

² Belize, Bolivia (Plurinational State of), Brazil, Colombia, Cuba, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay and Uruguay.

1. INTRODUCTION

1.1 The United Nations Framework Convention on Climate Change (UNFCCC) recognizes the vulnerability of countries to the effects of climate change and calls for efforts to mitigate its consequences, particularly in developing countries lacking resources to effectively address climate change.

1.2 In the UNFCCC Conference of the Parties' 16th session report, known as the Cancun Agreements, the Conference:

"Agrees that adaptation is a challenge faced by all Parties, and that enhanced action and international cooperation on adaptation is urgently required to enable and support the implementation of adaptation actions aimed at reducing vulnerability and building resilience in developing country Parties, taking into account the urgent and immediate needs of those developing countries that are particularly vulnerable".

1.3 Similarly, in its Article 7, the Paris Agreement provides as follows:

"1. Parties hereby establish the global goal on adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate adaptation response in the context of the temperature goal referred to in Article 2."

1.4 Understanding and assessing the vulnerability to, impacts of and adaptation to climate change are vital to enable States to take the necessary measures to achieve an appropriate level of adaptation that preserves the sustainability of air transport.

2. IMPACT OF CLIMATE CHANGE

2.1 The Intergovernmental Panel on Climate Change (IPCC) projects in its report that climate change will intensify in all regions in the coming decades. According to the report, if global warming reaches 1.5 °C heatwaves will increase, warm seasons will be longer and cold seasons shorter. If global warming reaches 2 °C, extreme heat events will be more frequent.

2.2 This scenario would, among other outcomes, disrupt the hydrological cycle, causing more intense rainfall with associated flooding episodes, change wind patterns and accelerate glacier melt, ocean acidification and sea level rise.

3. IMPACT OF CLIMATE CHANGE ON AVIATION

3.1 Extreme weather events brought about by these atmospheric shifts and changes will have an impact on the sustainable development of civil aviation. Rising sea levels due to ocean expansion and other causes would affect coastal airports, particularly punishing island States that are already experiencing these phenomena. Around 1,238 airports are built in low-lying coastal areas, i.e. less than 10 metres above sea level. Studies by the United Kingdom University of Newcastle outline four scenarios resulting from increasing climate change and its impact on airports. The first predicts a 52 cm sea level rise caused by a 1.5 °C increase in mean global temperatures. The second predicts a 63 cm rise if global mean temperatures increase by 2 °C, or an 86 cm rise in the third scenario. In the worst-case scenario, sea levels could rise by 1.8 meters by 2100. In all four scenarios, it is clear that a very high number of the world's over 14,000 airports will be affected.

3.2 Extreme rainfall has caused flooding on runways and airport facilities in Kenya's Jomo Kenyatta International Airport (JKIA) in April 2024; Brazil's Salgado Filho International Airport in May 2024; UAE's Dubai Airport in April 2024; Spain's Palma de Mallorca Airport in June 2024; and Italy's Milan-Malpensa Airport (MXP) in August 2024, among other instances, causing flight cancellations and delays.

3.3 According to the laws of aerodynamics, extreme temperatures and humidity levels in some regions are affecting aircraft take-off and landing performance, limiting maximum take-off weight at high altitude airports or airports with short runways. A heatwave in Mexico City in April 2024 forced Aeroméxico to cancel or restrict the weight of its flights and more than 40 flights were cancelled in the United States city of Phoenix, Arizona, due to temperatures high enough to compromise aircraft safety.

3.4 Changes in wind intensity and patterns will become more critical and pose safety risks, particularly during take-off and landing.

3.5 These and other developments require climatological and meteorological assessment to project the impact of climate change on the sustainable development of aviation in the context of regional and State realities. Highly vulnerable States that are in dire need to adapt to climate change should prepare plans to address climate events that are already impacting aviation development.

4. ICAO LEADERSHIP

4.1 To ensure the safe and sustainable development of aviation, it is critically important for ICAO to develop adequate actions and assist developing States in preparing adaptation measures to address the risks associated with climate change-induced weather events.

4.2 While ICAO has developed educational and guidance material on adaptation to climate change, it is also necessary for States to develop climate change adaptation and resilience plans under the guidance of the Organization.

4.3 Venezuela (the Bolivarian Republic of) highlights the need for ICAO to continue cooperating with the UNFCCC and other United Nations organizations, and to remain involved in the UNFCCC's scenarios relating to international civil aviation, in order to raise awareness of the progress being made by ICAO in respect of international civil aviation and climate change.

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