



**Twenty-Second Meeting of the AFI Planning and Implementation Regional Group
(APIRG/22)
(Accra, Ghana, 29 July – 2 August 2019)**

Agenda Item 4: Other Air Navigation Issues

REVIEW OF AFI PLAN 2019 AVIATION INFRASTRUCTURE FOR AFRICA GAP ANALYSIS

(Presented by the Secretariat)

SUMMARY	
<p>This paper reports on the 2019 Aviation Infrastructure for Africa Gap Analysis, conducted in response to ICAO Council Decision, C-DEC 24/7, on the implementation of the Declaration and Framework for a Plan of Action for Development of Aviation Infrastructure in Africa, and the request of the AFI Plan Steering Committee that the Secretariat prepares an appropriate programme to implement the required actions including the aviation infrastructure gap analysis.</p> <p>Action by the meeting is at paragraph 3</p>	
<i>Strategic Objectives</i>	A – Safety, B – Air Navigation Capacity and Efficiency, D – Economic Development of Air Transport, and E – Environmental Protection.

1. INTRODUCTION

1.1 The APIRG/21 meeting, under its Decision 21/03 requested the Secretariat to coordinate APIRG inputs to the Third ICAO World Aviation Forum (IWAF/3, Abuja, Nigeria 20-22 November 2017), in order to assist in the following tasks:

- a) Determination, through appropriate gap-analyses, of the aviation infrastructure needs of African States taking in to consideration requirements of the ICAO Global Plans, Regional Plans and existing and future capacity requirements; and
- b) Preparation and incorporation in the PIDA work plan, of an aviation infrastructure development plan for Africa and coordinate its implementation.

1.2 Under its Conclusion 21/08, APIRG/21 also requested States to take due account of the contribution of air transport to social-economic development and ensure that air navigation needs – including planning, implementation, operation, maintenance, human resources and training - are incorporated/addressed in their National Development Plans.

1.3 The IWAF/3 adopted a Declaration and Framework for a Plan of Action for Development of Aviation Infrastructure in Africa. The ICAO Council at its 213th and 214th Sessions in considering the report on the outcomes of the World Aviation Forum decided, under C-DEC 24/7, that activities and actions assigned to ICAO in the Declaration and Plan of Action be implemented under existing arrangements, especially the ICAO Comprehensive Regional Implementation Plan for Aviation Safety in Africa (AFI Plan).

1.4 The AFI Plan Steering Committee thereafter decided, at its 21st meeting that the AFI Plan Secretariat should prepare a programme and implement the required actions indicated in the said ICAO Council Decision. The Gap Analysis exercise covering Airports, Air Navigation Services, and Aircraft fleet capacity and equipage was conducted accordingly, and its outcome validated through a workshop held in Abuja, from 19 to 21 March 2019. The Workshop was attended by the President and Representatives of the ICAO Council, Air Navigation Commission, with 173 delegates from 22 States and various stakeholder organizations.

2. DISCUSSION

2019 AVIATION INFRASTRUCTURE GAP ANALYSIS EXERCISE

2.1. Objectives and Scope

2.1.1. The objective of the gap analysis was to carry out a State-by-State evaluation and determine the current status of implementation of aviation infrastructure based on global, regional and national requirements, taking in to account existing traffic levels, demand and capacity in the African region. The gap analysis is to serve as basis and provide in puts for the preparation of regional and national aviation Master plans and ensure that the development of aviation infrastructure complies with ICAO Standards and Recommended Practices, and responds adequately to traffic and capacity demands

2.1.2. In this respect, the exercise involved all African countries and covered aspects related to International Airports, Air Navigation Services, and Aircraft fleet capacity and Equipage. It was also conducted within the context of operationalizing the Single African Air Transport Market (SAATM), a flagship project of Agenda 2063 of the African Union.

2.2. Methodology and Process

2.2.1. **Survey / Data collection** - For the purpose of the exercise, information was gathered through a detailed State survey and complemented with material from the ICAO database and other sources. The survey questionnaire was sent to all African States and responses were received from 26; a response rate of approximately 50%.

2.2.2. **Gap analysis metrics and key high level elements** - A large volume of data and detailed information was required in the survey questionnaire. It was therefore necessary to identify and focus on key high level infrastructure related elements and determine the appropriate parameters to define the gaps in each of these. Similarly, the relevant references and applicable standards/plans were mapped out and used in evaluating level of implementation and measuring the associated gap(s) in a quantifiable manner.

2.2.3. The following key elements and parameters were employed:

- **International Airports** - Certification status, Runway capacity, aircraft parking, Terminal Building capacity (passenger/cargo), Rescue and Firefighting services, MRTDs, security screening equipment, and standby power / Airfield lighting.
- **Air Navigation Services** – PBN, ATS capacity, ATM Master plan, communications (systems, networks, circuits), navigation and surveillance station, and AIXM (e-AIP, AIS/AIM Transition, e-TODD)
- **Airline fleet, equipment and equipage** – market share (available seat kilometers of local carriers, passengers carried), connectivity (African/non-African destinations served by local airlines, weekly frequencies), capacity (load factors),

Aircraft ownership (% /leased)/ Cape Town Convention ratification.

2.2.4. The global and regional requirement references used include the GASP, GANP, GAsEP, ANP, and Decisions and Conclusions of Regional Groups / Plans established by ICAO (APIRG, RASG-AFI, AFI Plan, AFI SECFAL Plan, etc.), as well as the safety and security targets for Africa.

2.2.5. Summary Results

International Airports

- a) 70% of international Airports not certified;
- b) 35% of international Airports with inadequate pavement strength;
- c) 42% of international Airports with insufficient emergency plans/perimeter;
- d) 20% of international Airports with inadequate RFFS capacity;
- e) 18% of international Airports without adequate passenger/cargo terminal capacity
- f) 18% of international Airports with insufficient apron capacities;
- g) 17% of international Airports with deficient electrical power systems;
- h) 15% of international Airports without adequate airfield lighting systems;
- i) 9% of international Airports facing runway/taxiway dimension problems; and
- j) 8% of international Airports without adequate screening and MRTD equipment.

Air Navigation Services

- a) 35% of international Airports without PBN;
- b) 95% of States have no ATM Master plan;
- c) 95% of AFTN networks implemented;
- d) 15% ATS Message Handling Systems (AMHS) implemented;
- e) 5% ATS Inter-Facility Data Communications (AIDC) implemented
- f) 50% Controller-Pilot Data Communications (CPDLC) coverage;
- g) 0% implementation of VHF Data Link;
- h) 97% Ground aids/GNSS navigation systems implemented;
- i) 3% augmented GNSS (SBAS) implemented;
- j) 64%SSR-S,57%ADS-C,16%ABS-B,3%MLAT implemented; and
- k) 78%e-AIP, 70% e-TODD, 80% AIS/AIM Plans implementation.

Airlines:

- a) Low connectivity - 27% of services among African States;
- b) Direct traffic from SAATM States is mainly to Europe and intra-Africa, while traffic from SAATM to other regions is carried mainly through connecting flights;
- c) In terms of international frequencies, 76% of the intra-Africa market served by African carriers;
- d) In terms of origin-destination passengers, for 14 African States, over 50% of international passengers are carried by African carriers;
- e) Airlines of all African States had an average load factor of 70.8% in 2017 (lower than the world average of 82%); and
- f) 27 African States are party to Cape Town Convention.

2.3. Key Conclusions and Recommendations:

2.3.1. The gap analysis having built on the outcomes of the Abuja validation Workshop, provided a series of conclusions and recommendations, details of which are outlined in the report. These include, but are not limited to:

- a) The development of guidance material by ICAO to assist States and Regions in preparing aviation Master plans be expedited.
- b) States and RECs utilize available guidance material from ICAO and the results of the gap analysis to prepare national and regional Aviation Master Plans.
- c) APIRG finalizes the development and adoption of the remaining parts of the AFI Air Navigation Plan, and ensure continuous monitoring of aerodrome and air navigation deficiencies.
- d) The aviation infrastructure gap assessment methodology be aligned with that of State Safety Programmes on the ICAO iSTARS Online Tool, with overall indicators to give level of progress of States.
- e) APIRG and States prioritize air navigation related projects taking due account of prevailing targets, including SAR organization, AIS/AIM and PBN implementation.

2.4.2 The following activities of relevance to APIRG work were also identified as part of the Next Steps:

- a) Preparation of gap analysis of a long term horizon based on 25-year projections of traffic growth, operational and capacity / regulatory requirements, and demand for aviation professionals;
- b) Determine the funding required to bridge the long term infrastructure gaps and identify appropriate financing mechanisms at State and / or regional level;
- c) States and RECs utilize available guidance material from ICAO and the results of the gap analysis to prepare national and regional Aviation Master Plans; and
- d) Regional programme with specific plans, projects and effective implementation monitoring mechanism be developed to ensure that the identified gaps are properly addressed.

3 ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the Summary of Report on the AFI Plan 2019 Aviation Infrastructure for Africa as presented in this working paper.
- b) commend the AFI Plan Secretariat for the conduct of the 2019 Aviation Infrastructure for Africa Gap Analysis.
- c) take action as appropriate on the key conclusions and recommendations in Section 2.4 here above; and
- d) Provide further guidance as necessary.

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