

INTERNATIONAL CIVIL AVIATION ORGANIZATION



THE AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP (APIRG)

**REPORT OF THE FOURTH MEETING OF THE
AIRSPACE AND AERODROME OPERATIONS SUB-GROUP
(AAO-SG/4)**

(Virtual Meeting, 16 to 18 August 2021)

The views expressed in this Report should be taken as those of the APIRG AAO Sub-Group and not of the Organization. This Report will, however, be submitted to the APCC and APIRG and any formal action taken will be published in due course as a Supplement to the Report.

Approved by the Meeting
and published under the authority of the Secretary General

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- Draft Conclusion 4/03 - Review of the AFI ATM Contingency Plan (AFI ATM CP)
- Draft Decision 4/04 - Review of the AFI ATM Contingency PLAN (AFI ATM CP)
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- Draft Conclusion 4/07 - Attainment of the AFI RVSM Airspace Target Level of Safety
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- Draft Decision 4/09 - Improvement of Search and Rescue Services in the AFI Region
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PART I – HISTORY OF THE MEETING

1 VENUE AND DATE

1.1 The Fourth Meeting of the APIRG Airspace and Aerodrome Operations Sub-Group (AAO-SG/4) was held virtually, from 16 to 18 August 2021.

2 OPENING

2.1 Mr. Prosper Zo'o Minto'o, Regional Director, Western and Central Africa Regional Office officially opened the Meeting. Mr. Barry Kashambo, Regional Director, Eastern and Southern African Regional Office attended the meeting. In his remarks, Mr. Zo'o Minto'o thanked the participants as well as their respective Administrations for facilitating their attendance in spite of the current COVID-19 pandemic challenges, which had devastated the aviation sector.

2.2 Mr. Zo'o Minto'o recalled that the Airspace and Aerodrome Operations sub-group (AAO-SG) was established with specific terms of reference, focused on project implementation approach, related to airspace safety and efficiency, and aerodrome operations, all of which are linked to Performance Based Navigation (PBN), ASBU implementation and compliance with ICAO Standards and Recommended Practices.

2.3 Mr. Zo'o Minto'o thanked Mr. Simon Zwane and Mr. Mbodj Ndoudory Aliou, outgoing Chairperson and Vice-Chairperson (whose terms had been extended in August 2020 by the AAO-SG/3 for one more year), for the job well done and the support provided to the Subgroup. He reminded the meeting to hold election of the Bureau of the Sub-Group to serve for the next two years. He went ahead and identified the following items as key areas for consideration by the subgroup during the deliberations.

- a) The need to develop strategies to fast-track the implementation of ASBU modules and projects.
- b) Implementation APIRG Conclusions and Decisions applicable to the AAO-SG for the strengthening of air navigation system;
- c) Updating of the minimum reporting areas and the Air Navigation Deficiencies management process;
- d) Updating and alignment of the AFI Air Navigation Plan to the sixth Edition of the Global Air Navigation Plan.

2.4 Mr. Zo'o Minto'o commended the coordination among ICAO Regional Offices, States, Organizations (IATA, ARMA, CANSO, ACI, IFALPA and IFATCA), Operators and Service Providers (ASECNA, ATNS,), in the past and asked the team to continue in the same spirit.

2.5 He finally called for a harmonised approach in addressing emerging issues and need to ensure cost effective approach in taking action on agreed decisions and conclusions with expertise support from States and international organizations.

3 ATTENDANCE

3.1 One hundred and ninety nine (199) participants from thirty-six ESAF and WACAF States and four international organizations, namely, IATA, CANSO, ASECNA, and ATNS attended the meeting.

3.2 The List of Participants is at **Appendix 1** to the Report.

4. OFFICERS AND SECRETARIAT

4.1 The meeting was chaired by Mr. Billy Diabasenga Kusuamina, Head of Air Navigation Division, “Régie des Voies Aériennes”, Democratic Republic of Congo as Chairperson and Mr. Nathan Kaluba, Senior Aerodrome Inspector, Zambia Civil Aviation Authority, Republic of Zambia as Vice Chairperson of the AAO-SG. Mr. Elisha Omuya, Regional Officer AGA ESAF, assisted by Mr. Albert Taylor, Regional Officer ATM/SAR WACAF, and Ms. Keziah Ogutu, Regional Officer ATM/SAR ESAF, was the Secretary of the meeting.

5. LANGUAGES AND DOCUMENTATION

5.1 The discussions were conducted in English and French languages and the meeting’s documentation was also issued in both languages, to the extent possible. Translation and simultaneous interpretation services were also provided.

6. AGENDA

6.1 The following Agenda was adopted:

Agenda Item 1	Adoption of the Agenda and Election of Chairperson and Vice Chairperson of the AAO-SG
Agenda Item 2	Review of the APIRG Conclusions/Decisions applicable to the AAO-SG
Agenda Item 3	Planning and implementation (Projects and ASBU Modules) 3.1 Airspace (safety, capacity and efficiency) 3.2 Aerodrome Operations (safety, capacity and efficiency) 3.3 Other Air Navigation Initiatives
Agenda Item 4	AFI Air Navigation Plan (Doc 7474)
Agenda Item 5	AFI Air Navigation Deficiencies Database
Agenda Item 6	Terms of Reference (TOR), Composition and Future Work Programme of the AAO-SG
Agenda Item 7	Review of the Draft AAO-SG/3 Conclusions/Decisions
Agenda Item 8	Any Other Business (AOB)

7. CONCLUSIONS AND DECISIONS - DEFINITION

7.1 All APIRG Sub-Groups and Project Teams record their actions in the form of *Conclusions* and *Decisions* with the following significance:

- a) **Conclusions** deal with the matters which, in accordance with the Group’s terms of reference, merit directly the attention of States on which further action will be initiated by ICAO in accordance with established procedures; and
- b) **Decisions** deal with matters of concern only to the APIRG and its contributory bodies.

PART II: REPORT ON AGENDA ITEMS

AGENDA ITEM 1: ADOPTION OF THE AGENDA OF THE AAO-SG/4 AND ELECTION OF CHAIRPERSON AND VICE CHAIRPERSON

1.1 The meeting reviewed the proposed agenda for the Fourth Meeting of the APIRG Airspace and Aerodrome Operations Sub-Group (AAO-SG/4), copy of which had been forwarded to States and international organizations as an attachment to the invitation State Letter. The agenda was adopted without changes as indicated in *paragraph 6* of the *History of the Meeting*.

1.2 The meeting recalled that the AAO-SG/3, held virtually, from 3 to 5 August 2020, extended for one more year the terms for Mr. Simon Zwane, from South Africa, as Chairperson and Mr. Mbodj Ndoudory Aliou, from Mauritania as Vice-Chairperson due to the unusual situation created by COVID-19.

1.3 Subsequently, the meeting elected for the next two years, Mr. Billy Diabasenga Kusuamina, Head of Air Navigation Division, “Régie des Voies Aériennes”, Democratic Republic of Congo, as Chairperson and Mr. Nathan Kaluba, Senior Aerodrome Inspector, Zambia Civil Aviation Authority, Republic of Zambia, as Vice Chairperson of the AAO-SG.

1.4 Messrs. Billy Diabasenga and Nathan Kaluba were appreciative of the confidence entrusted to them and pledged their commitment to fully discharge their responsibilities in ensuring that the proceedings of the Sub-Group are guided and managed effectively, in order to achieve the desired outcome. The CAA DRC representative thanked the meeting on behalf of the State for electing the two officials. The meeting was requested to encourage female members to take the leadership positions in future. The meeting therefore agreed on the following Draft Decision:

Draft Decision 4/01: Election of the Chairperson and Vice-Chairperson

That, in order to guide the discussions of the Sub-Group, Mr. Billy Diabasenga (Democratic Republic of Congo) and Mr. Nathan Kaluba (Zambia) were elected as Chairperson and Vice Chairperson of the Sub-Group, respectively.

AGENDA ITEM 2: REVIEW OF THE CONCLUSIONS/DECISIONS OF THE THIRD MEETING OF AAO-SG AND THE APIRG/23 & RASG-AFI/6 MEETING APPLICABLE TO AAO-SG

2.1 The meeting reviewed the list of APIRG and RASG-AFI Conclusions and Decisions applicable to the AAO Sub-Group. The Twenty-Third Meeting of the AFI Planning and Implementation Regional Group (APIRG/23) held virtually and jointly with the Sixth Meeting of the Regional Aviation Safety Group (RASG-AFI/6) from 23 November to 2 December 2020 adopted twenty-five (25) Conclusions and five (5) Decisions applicable to the AAO-SG.

2.2 The meeting noted that the small working group (SWG) led by Nigeria established at AAO-SG/3 and tasked to follow up and update the status of implementation of APIRG and RASG-AFI Conclusions and Decisions applicable to the AAO Sub-Group was unable to complete the task. The SWG experienced logistical challenges mainly as most of the members were already committed to other APIRG projects.

2.3 In order to ensure continuous reporting on the implementation status, the subgroup shall propose the mechanism for reporting status of implementation of APIRG Conclusions and Decisions for purposes of harmonization through appointed Focal points for coordination..

2.4 The updated status of implementation of APIRG Conclusions and Decisions is at **Appendix 2** to this Report.

AGENDA ITEM 3: PLANNING AND IMPLEMENTATION

Airspace (Safety, Capacity and Efficiency)

ATM Master Plan

3.1 The meeting was updated on the progress made by the AFI ATM Master Plan – Project Management Team (AAMP PMT) in the development of the AFI ATM Vision 2045 document, future AFI Concept of Operations (AFI CONOPS) and AFI ATM Master Plan (AAMP). The development of the three documents are approximately at 50% completeness. The meeting however noted that there is still significant content review and refinement required to ensure maturity and AFI-centric products. The PMT highlighted that participation by many State members in the project activities had been predominantly low since project inception, leading the majority of the milestones in line with the AAMP-PMT work programme remaining incomplete. The meeting therefore noted that in order to complete the development of the Vision document (CONOPS and the Master plan), States and/or organizations shall confirm the availability of previously nominated project members or nominate suitable alternatives to the project.

3.2 In order to support the tracking of the project activity and participation in the outstanding two project tasks, a steering team made up of six AAMP-PMT members was formulated. The steering team's main task being to coordinate and facilitate project activities and ensure that the undertaking is continuously developing towards maturity. The meeting therefore formulated the following Conclusion:

Draft Conclusion 4/02: Implementation of the AFI ATM Master Plan (AAMP)

That, to enable the completion of the AFI ATM Master Plan (AAMP), The Vision Document and the ATM Concept of Operations (CONOPS) document:

- a) States/Organizations to confirm by 31 December 2021, the availability of previously nominated AFI ATM Master Plan (AAMP) project members to continue with the project or nominate suitable alternatives and ensure their effective participation as project team members; and*
- b) The Secretariat in coordination with the project team to present the first draft of the AFI ATM Master Plan to APIRG/24 for endorsement at APIRG 24.*

Review of the AFI ATM Contingency Plan (AFI ATM CP)

3.3 The meeting discussed the outlined progress on the ongoing AFI Regional Contingency Plan review and the implementation status of the AFI ATM CP. The meeting noted that in order to ensure the review of the AFI ATM CP, a virtual workshop on AFI Regional Contingency Plan Review and Implementation Coordination, was held from 2 to 4 June 2021.

3.4 The meeting reviewed the proposed changes in the revised AFI ATM Contingency Plan and urged States to review and harmonize their National ATM Contingency Plan with the reviewed AFI ATM CP once adopted.

3.5 The meeting reminded States of the requirement to publish National ATM CPs in State AIPs and relevant websites and afterwards link them to the contingency plan webpage of accredited ICAO Regional Office. The meeting was finally informed that the AFI ATM Contingency Review Team in collaboration with Secretariat had completed the Draft AFI ATM Contingency Plan Version 2 as in **Appendix 3** to this report. The meeting therefore formulated the following Conclusion and Decision:

Draft Conclusion 4/03: Review of the AFI ATM Contingency Plan (AFI ATM CP)

That, to ensure the availability of information pertaining to the AFI region contingency plans:

- a) *States that have not done so, are urged to review and publish their National ATM CP, and forward the signed copies to ICAO Regional Offices by 31 December 2021; and*
- b) *States to establish and link their National ATM Contingency Plans to the ICAO Webpage of ATM Contingency Plans, by 31 December 2021.*

Draft Decision 4/04: Review of the AFI ATM Contingency Plan (AFI ATM CP)

That, in order to ensure the availability of information pertaining to the AFI region contingency plans, the Second Version of the AFI ATM Contingency Plan in Appendix 3 is endorsed.

AFI Free Route Airspace (AFI FRA)

3.6 The meeting was updated on the work of the **AFI Free Route Airspace Project Management Team (AFI FRA PMT)**. The meeting noted that although COVID-19 had negatively affected the aviation industry, some States had implemented plannable direct routes in order to assist with operational recovery. The meeting also noted that the implementation of FRA in AFI will be a step-by-step process starting with plannable direct route publications, and that these publications need to be regularly updated by ANSPs. In order to have a harmonized and an AFI region-wide implementation, AFI States were urged to incorporate the FRA concept in **Appendix 4** in their national airspace organization and air traffic management master plans.

3.7 The meeting was informed of the GAP analysis checklist developed to provide an overall picture of possible challenges to be addressed during FRA implementation. The Monkey Survey can be also used through the following link

https://www.surveymonkey.com/r/Preview/?sm=3CzP166ETNuFuWD9Otd2CNEEJJJtf9yXt_2FWdFyCzfsWZO7XUx_2B_2BWJ6iyGBKfJKJ

3.8 The meeting therefore formulated the following Conclusion and Decision:

Draft Conclusion 4/05: Implementation of the AFI Free Route Airspace (AFI FRA)

That, in order to foster a harmonized implementation of the AFI FRA within the stipulated timelines, States that have not already done so, to complete the FRA Gap Analysis checklist and forward to ICAO Regional Offices as a matter of urgency, using the provided survey tool:

https://www.surveymonkey.com/r/Preview/?sm=3CzP166ETNuFuWD9Otd2CNEEJJJtf9yXt_2FWdFyCzfsWZO7XUx_2B_2BWJ6iyGBKfJKJ

Draft Decision 4/06: Implementation of the AFI Free Route Airspace (AFI FRA)

That, in order to foster a harmonized implementation of the AFI FRA within the stipulated timelines, the meeting endorse the draft AFI FRA CONOPS in Appendix 4,

ARMA RVSM and Operational Safety

3.9 The meeting received the full report for RVSM Safety in the Africa Indian Ocean Region (AFI) airspace which contained results of the 2019 Collision Risk Assessment 14, Monitoring Burden for the AFI Region, Implementation progress for Strategic Lateral Offset Procedure (SLOP), and Identification of Non- Approved aircraft operating outside of the AFI Region.

3.10 The meeting endorsed ARMA’s request for establishment of a link within the ICAO website for the publication of essential information from ARMA including on RVSM and PBCS.

3.11 The meeting noted that although all operators that operate or intend to operate in airspace where RVSM is applied are required to participate in the RVSM monitoring program, not all of the operators are doing so. The meeting therefore urged States to ensure the active participation by their national air operators in the programme.

3.12 The meeting expressed concern over the high incidences of Large Height Deviations (LHD) due to lack of coordination among ATS units in the Horn of Africa and urged for urgent action to be taken in order to address the deviations.

3.13 The meeting took note of the improvement made in reporting by States in the last one year, which resulted in bringing the CRA value to the lowest level achieved in the last nine years as indicated in the table below:

COLLISION RISK ASSESSMENT 14 : AFRICA INDIAN OCEAN REGION

CRA	N_{az}^{total}	TOTAL VERTICAL TLS EXCEEDED BY A FACTOR OF
CRA 14 2019	10.9×10^{-9}	3.3
CRA 13 2018	75.4×10^{-9}	15.0
CRA 12 2017	58.6×10^{-9}	11.7
CRA 11 2016	36.4×10^{-9}	7.3
CRA 10 2015	141.2×10^{-9}	28.2
CRA 9 2014	63.7×10^{-9}	12.7
CRA 8 2013	31.4×10^{-9}	6.3
CRA 7 2012	8.0×10^{-9}	1.6
CRA 6 2011	23.2×10^{-9}	4.7
CRA 5 2010	33.0×10^{-9}	6.6
POSC CRA (2008-2009)	31.2×10^{-9}	6.2

AFI Airspace – estimated annual flying hours = 552 755.72 hours (note: estimated hours based on Dec 2019 traffic sample data)			
Source of Risk	Risk Estimation	TLS	Remarks
CRA 13 Total Risk(Previous)	75.4×10^{-9}	5.0×10^{-9}	Above TLS
Technical Risk	7.47×10^{-10}	2.5×10^{-9}	Below Technical TLS
Operational Risk	10.1×10^{-9}	-	-
CRA 14 Total Risk	10.9×10^{-9}	5.0×10^{-9}	Above TLS

3.14 In support of continued reduction of the CRA value, ARMA urged the States that have not done so to implement SLOP by 30 June 2022. The meeting therefore formulated the following Conclusion and Decision:

Draft Conclusion 4/07: Attainment of the AFI RVSM Airspace Target Level of Safety.

That, in order to attain the Target level of Safety in AFI RVSM Airspace,

- a) States that not already done so to ensure that operators establish and comply by 31 December 2021 with Long Term Height Monitoring Requirements as per Annex 6 Standards and provide evidence to the ARMA; and*
- b) ICAO to engage States in the Horn of Africa to address the high level of Large Height Deviations (LHD),*

Draft Decision 4/08: Establishment of an ARMA Publication website

That, in order to improve access to ARMA information, ICAO to establish a webpage link with the ARMA website to enable Stakeholders to have easy access to the RVSM and PCBS information.

AFI Performance Based Communications and Surveillance

3.15 The meeting was updated on the status of implementation of the AFI Performance Based Communications and Surveillance (AFI PBCS) and recalled the APIRG/23 Decision 23/06 on the Establishment of PBCS team and implementation of PBCS in the AFI region.

3.16 The meeting noted that States were lacking capacity in the area of PBCS implementation. The need to nominate appropriate experienced experts to form the implementation team was emphasized.

AFI SAR Implementation and development of the SAR Plan

3.17 The meeting was updated on status of implementation of the AFI Region Search and Rescue (SAR) system as well as implementation of the action plans developed from the interregional SAR workshops held at Shalala, Oman in 2019 and virtually on 8-9 October and 12 November 2020. The meeting noted the low level of participation of the AFI States in the Satellite Aided Distress Tracking System. States are therefore urged to participate in the planned awareness workshop to be hosted by the Joint Workshop Group (JWG). The meeting was also informed of the establishment of a project team to develop an AFI Regional SAR Plan, which have completed the development of the first draft. The meeting therefore formulated the following Decision:

Draft Decision 4/09: Improvement of Search and Rescue Services in the AFI Region:

That, in order to have an improved and harmonized implementation of the Search and Rescue Services in the AFI region:

- a) The AFI SAR Plan in Appendix 5 is endorsed; and*
- b) States urged to harmonize their National SAR Plans with the Regional SAR Plan once implemented.*

ASCAAR

3.18 The meeting was informed that the ASCAAR project had reached the trial stage and was ready for implementation. The trial, planned to commence on 7 October 2021, will run for sixty (60) days to be followed by the implementation on 2 December 2021 if no adverse challenges are encountered. AFI States were urged to actively participate in the trial and compile data on any challenges observed during the period. The State Focal Points were encouraged to coordinate with the respective Participating Area (PA)

coordinators to ensure effective implementation. The meeting therefore formulated the following Conclusion:

Draft Conclusion 4/10: Implementation of the AFI SSR CMP

That, in order to ensure the smooth implementation of the adopted AFI SSR CMP, States to promote awareness to all stakeholders on the AFI SSR CMP in preparation for the proposed implementation date of 2 December 2021.

ATS Competency Study

3.19 The meeting was updated on the status of the ATS Competency Study (ATSCS), noting that the issue of ATC competence still warranted special attention. The report indicated that during the study a survey tool was developed to collect data from selected stakeholders, which included air navigation service providers, pilots and air traffic controller professional bodies. The level of response to the survey was low with only four responses received from ANSPs and no response from the pilot and air traffic controller professional bodies, as well as none from the Aviation Training Organizations (ATOs). The meeting was informed that the project team decided to review the survey tool taking into account lessons learnt during the pandemic period and recirculate it to the target groups. The meeting therefore formulated the following Conclusion:

Draft Conclusion 4/11: ATS Competency Study (ATSCS)

That, in order to enable the completion of the ATS Competency Study (ATSCS), States are urged to coordinate the response of their ANSPs to the survey questionnaire already sent out.

PBN Implementation

3.20 The Performance-Based Navigation (PBN) is one of the highest priority for air navigation. The implementation starts with the development of a National PBN Implementation Plan (NPIP) by each State prior to the development of flight procedures, including Continuous Climb Operations (CCO) and Continuous Descent Operations (CDO). PBN is also a key enabler of the aviation System block upgrades (ASBU). The meeting however noted the low progress of implementation in the region resulted from lack of a harmonised approach, due to expired regional implementation timelines. The meeting therefore encouraged States to take opportunity of the current low traffic condition to implement CCO/CDO.

3.21 The meeting recalled the role of AFI Flight Procedure Programme (AFPP) for the PBN implementation of PBN. The meeting noted the financial challenges the AFPP is encountering due to non-payment of contributions. The meeting therefore urged States to establish effective mechanisms ensuring their contributions to the AFPP.

3.22 The meeting also noted that timelines set by APIRG for the implementation of the RNAV/5, RNP/4 and RNP/2 in the Enroute sector had expired. The need to review timelines and provide a forum for the process to ensure a harmonized approach for the implementation were emphasized. The meeting therefore formulated the following Conclusion and Decision.

Draft Conclusion 4/12: Optimization of the ATS Route Structure in the AFI En-Route Airspace

That, in order to optimize the ATS route structure in the AFI En-route airspace and foster the harmonized implementation of the RNAV/5, RNP/4, and RNP/2:

- a) *States/ANSPs, IATA and AFRAA to collaborate and conduct a survey of aircraft equipage in the AFI region to facilitate RNAV/5, RNP/2 and RNP/4 planning decisions by 31 March 2022;*
- b) *States in coordination with ICAO, IATA, AFRAA and the AFPP identify trunk routes connecting major city pairs in the upper airspace and transit to/from aerodromes for RNAV/5, RNP/2 and RNP/4 implementation by 31 October 2022;*
- c) *ICAO Regional Offices and AFPP conduct a workshop by end of June 2022 on RNAV/5, RNP/2 and RNP/4 airspace concept design and assist States in developing capacity for required RNP regulatory approvals and in the implementation activities, for a safe and timely RNP implementation in the AFI region.*

Draft Decision 4/13: Improved PBN Implementation

That, in order to improve the continued implementation of PBN and foster the harmonized implementation approach,

- a) *AFPP and ICAO Regional Offices to conduct a CCO/CDO implementation survey.*
- b) *States that have not already done so, to confirm their CCO/CDO implementation status by providing to the respective ICAO Regional Offices copies of published procedures.*

Formalization of SAT Structure and Handbook

3.23 The meeting took note of the reviewed Terms of Reference of the South Atlantic (SAT) Steering Group (SSG), SAT Implementation Management Group (IMG) and SAT Oversight Group (SOG). The meeting was informed that the SAT Group agreed in principle for a formal SAT meeting to be held by 31 October 2021. The meeting urged AFI SAT States to participate in the SAT/25 meeting and take part in the critical decisions relating to election and priority projects of the SAT Group. The meeting therefore formulated the following Conclusion:

Draft Conclusion 4/14: Adoption of a Formalized SAT Structure and Handbook

That, in order to establish and operationalize a formalized structure for the provision of ATS improvements over the entire South Atlantic:

- a) *The SAT structure and Handbook in Appendix 6 to this report is endorsed as the governance framework for the SAT Group; and*
- b) *AFI SAT States are urged to nominate qualified experts for the SSG, IMG and SOG chair and vice-chair positions by providing a nomination letter including the Curriculum Vitae (CVs) of those nominated to SAT positions.*

Civil/Military Cooperation and Coordination

3.24 The meeting noted that the cooperation between the civil and military agencies is an integral component in fostering civil aviation growth; this cooperation is an enabler in all the five ICAO strategic objectives.

3.25 The meeting recalled the APIRG/23 Conclusion 23/08, which required ICAO to conduct an awareness Civil/Military workshop by end of April 2021. The meeting was updated on the outcomes of the civil/military cooperation and coordination workshop held on 27-29 April 2021, and noted the need for AFI States to provide feedback on the status of implementation by 26 August 2021.

3.26 Noting the importance of cooperation at the highest States level, the meeting encouraged the AFI States to consider forming national high-level civil-military aviation cooperation policy Board-Civil / Military Cooperation Committees as a matter of urgency.

3.27 The meeting was further informed on the benefits of the implementation of Flexible Use of Airspace (FUA) and noted the importance to expedite the development of coordination procedures between ATS and Military units in order to promote improved capacity and efficiency.

3.28 The meeting took note of the large area covered by Special Use Airspace (SUA) in the region; and the usage of existing SUAs including prohibited areas, restricted areas, and danger areas.

3.29 The meeting therefore urged States to support the implementation of FUA by considering the review of the national airspace structures in order to publish the actual usage as well as reduce the vertical limits, dimension and numbers of SUA. The meeting therefore formulated the following Conclusion:

Draft Conclusion 4/15: Enhanced Implementation of Civil/Military Cooperation

That, in order to promote a harmonized implementation of the provisions of the Manual of Civil/Military Cooperation in ATM (Doc 10088) in the AFI region:

- a) States to conduct national awareness seminars, workshops, joint planning and provision of services where necessary on Civil/Military cooperation;*
- b) States to request ICAO Regional Offices assistance where necessary in the implementation of specific Civil/Military activities and programmes;*
- c) States to review the existing Special Use Airspaces (SUA) in order to facilitate the implementation of FUA; and*
- d) States to engage with the concerned military authorities in order to improve availability of FUA, based on flight plannable directs post implementation data.*

ATM Coordination

3.30 The meeting was updated on the outcome of the Air Traffic Management (ATM) Coordination Meeting held virtually from 28 June to 2 July 2021. The meeting noted the numerous outstanding actions pending from previous coordination meetings and urged concerned States to expedite the implementation.

3.31 The meeting noted the report from Mauritius on the ongoing airspace upgrade with the implementation of free route airspace within the Mauritius Flight Information Region (FIR).

3.32 The meeting also noted that there is still a high level of coordination failures resulting in Large Height Deviations (LHD) in the intersection region between AFI and MID regions (the Horn of Africa) and urged the concerned States to consider the importance of their participation in coordination forums as a mean to eliminate the unsafe conditions.

Implementation of Tactical Action Group (TAG) Recommendations

3.33 The meeting noted with concern the low level of implementation of recommendations from TAG/11 and TAG/12 meetings held in 2019 and 2020 and urged concerned States to consider the importance of expediting the implementation of the recommendations. The meeting adopted the proposed Action Plan in as presented in the working paper on TAG.

Aerodrome Operations (Safety, Capacity and Efficiency)

Status of implementation of Aerodrome Operations Projects and ASBU Modules

3.34 The meeting was updated on the status of implementation of Aerodrome Operations and ASBU modules projects (**Appendix 7**). The meeting noted the progress made by Aerodrome Operations Project Teams in drafting of Project documents. It was observed that whereas some of the project documents had been developed and were meant to go through all the steps for formalization before submission to APCC for consideration.

3.35 The meeting encouraged States and team members to consider continuous meetings as new normal ways of working for the successful completion of projects. The meeting urged Project team to consider having regular meetings. With regard to the slow progress in the implementation of ADCM, the meeting requested the Regional Offices intervention through workshops and other related activities.

GRF Implementation Monitoring

3.36 The applicability date of the Global Reporting Format (GRF) was recalled. To create awareness and support States actions on GRF implementation, a number of seminars, webinars and workshops had been conducted at the global and regional level. The meeting was informed of the planned GRF Dry Runs at State and regional level.

3.37 The meeting was informed of the a GRF implementation monitoring tool and map developed, based on GRF Implementation Action Plan and the actual implementation status provided by States to the ICAO Regional Offices. The meeting therefore agreed on the following draft conclusion:

Draft Conclusion 4/16: GRF Implementation and Monitoring

That, in order to ensure effective implementation of GRF, States to continuously update ICAO Regional Offices on the status of the implementation including the encountered challenges.

Implementation of ACDM

3.38 The meeting noted the importance of real time operational information sharing among all the airport stakeholders for the Collaborative Decision Making (CDM). The ACDM implementation at an airport reduces airlines operating costs attributed to fuel burn and delays. This can be achieved through the establishment of an information sharing/CDM platform and/or the review of coordination procedures among airport's stakeholders, in order to break down the silos. Training and sensitization are also critical for ACDM implementation.

3.39 The meeting recalled the APIRG/23 discussions on CANSO's initiative on the Air Traffic Flow Management (ATFM) and A-CDM. The meeting took note of the importance of the MOMBASA AFI ATFM ROADMAP as one of the pillars to achieve seamless operations concept and A-CDM implementation. The meeting therefore formulated the following draft decision:

Draft Decision 4/17: Implementation of the ACDM

That, in order to foster the implementation of A-CDM, ICAO Regional offices to organize workshop(s) on ACDM by 31 March 2022 and encourage States to participate.

Panel – The 3As - Building Back Better

3.40 The AAO-SG/4 introduced a panel session as a novelty and provided a platform for harnessing directly the inputs of CEOs and senior managers of industry and service providers as crucial inputs into the planning and implementation of air navigation systems in the AFI region. The Subgroup highlighted the interdependency of the Air Navigation System key role players and their economic and operational sustainability of the aviation industry.

3.41 The Subgroup emphasized that the 3As (Airlines, Airports and Air Navigation Services) have the biggest resource burden in that they are responsible for planning and implementing the Air Navigation system infrastructure equipment, investment, technical and operations, financial and human resource. The panel discussion was therefore to hear from the 3As challenges in implementing Plans to Build Back Better in the post COVID-19 period. The intended outcome of the panel was to give pointers to the AAO-SG on the needs of the 3As into future planning and implementation requirements ensuring regional harmonization, seamlessness and interoperability.

3.42 The panel comprised of Airspace Users (Kenya Airways, Delta Airlines), The Zambia Airports Co. Ltd, ASECNA, Air Traffic and Navigation Service of South Africa, Ghana Airports Company Ltd, and was moderated by the Director General of Rwanda Civil Aviation Authority and the ICAO WACAF Regional Director. From the panel discussions, the meeting agreed on the following draft Conclusion:

Draft Conclusion 4/18: Building Back Better Air Navigation Systems

That, in order to build-back-better air navigation systems, ICAO organize seminars on innovations, emerging technologies and business models with leverage on the benefits of Artificial Intelligence, Big Data and digitalization, etc. in order to modernize the provision of air navigation systems and services in the region and support the Yamoussoukro Declarations, SAATM and AfCFTA objectives.

Draft Decision 4/19: Building Back Better Air Navigation Systems

That, in order to build-back-better air navigation systems, the AAO-SG to consider methodology of conducting study on the impact on the provision of air navigation services in the region as a result of the concept of working remotely; determine safety and efficiency of operations as well as benefits, challenges, social and economic impact of new working arrangements.

3.43 The meeting acknowledged the usefulness of the panel and agreed to consider similar forum for future meetings.

AGENDA ITEM 4: AFI AIR NAVIGATION PLAN (DOC 7474)

4.1 The meeting recalled that the APIRG/22 Meeting held in Accra, Ghana, from 29 July to 2 August 2019, in its Conclusion 22/20 endorsed the final Draft of Volume II of the AFI ANP; and requested States to provide timely inputs to Volume III of the AFI ANP once circulated, while complying with the established procedures for further amendments of the AFI ANP Volumes I and II. The meeting was informed that the approved Volume I and Volume II which is available on the ICAO ESAF and WACAF Regional Offices websites: (<https://www.icao.int/WACAF/Pages/AFI-eANPs.aspx> and <https://www.icao.int/esaf/Pages/default.aspx>), lacked vital information to be provided by States.

4.2 The meeting also recalled that the structure for the Sixth Edition (6th Edition) of the GANP with the updated ASBU framework available on <https://www4.icao.int/ganpportal/> provides for need to amend regional priorities for ASBU implementation to align them to the amended ASBU elements.

Implementation of sixth Edition of the GANP within the AFI Region

4.3 The meeting was appraised on the new changes to the sixth Edition (6th Edition) of the Global Air Navigation Plan including but not limited to the format as well as its content [Basic Building Block (BBB) Framework, revised Threads; replacement of Performance Improvement Areas with three new groups; new, amended and re-structured modules]. The other introductions are categorisation of the ASBU Threads into three overarching groups namely Operational, Information and Technology.

4.4 In view of the new developments in the GANP while being cognitive of the need to foster understanding of the provisions of the GANP by States and Industry, there is a need for a sensitization by the ICAO Regional Offices for capacity building. The meeting noted that due to the lack of information or data from States, the AFI Region continues to fail in publishing regional status of implementation of the ASBU Modules. In Addition, the set of Air Navigation Report Forms (ANRFs), which, were adopted by APIRG to be used by States in reporting the status of ASBU implementation, was reported to be difficult to use. The meeting therefore formulated the following Decision:

Draft Decision 4/20: Implementation of sixth Edition of the GANP within the AFI Region

That, in order to foster the implementation of the Global Air Navigation Plan:

- a) ICAO Regional Offices to conduct a sensitization workshop on the provisions of the sixth Edition of the GANP by 30 June 2022, and*
- b) ICAO Regional Offices to conduct a workshop on ASBU by 30 August 2022.*

AGENDA ITEM 5: AFI AIR NAVIGATION DEFICIENCIES DATABASE (AANDD)

5.1 The meeting recalled that the APIRG/23 through Conclusion 23/32 had endorsed the revised minimum reporting areas as well as encouraged the secretariat to expedite the completion of the upgrade of the AANDD tool. The meeting urged States that are yet to do so, to provide ICAO Regional Offices with the names of the State Focal points as a matter of urgency. The meeting was updated on the ongoing development of the web-based database platform as well as the preparation of the planned training.

AGENDA ITEM 6: TERMS OF REFERENCE (TOR), COMPOSITION AND FUTURE WORK PROGRAMME OF THE AAO SUB-GROUP

6.1 The Sub-Group reviewed its Terms of Reference (ToR), with the objective of identifying areas for improvement to effectively support additional activities being undertaken by the Group and for recommendation to APIRG. Following deliberations on the matter, the Group agreed that there was no justification for changes or modifications to its ToR, The Sub Group in addition updated its Work Programme as per **Appendix 8**.

Draft Decision 4/21: Future Work Programme of the AAO Sub-Group

That the Work Programme of the AAO-SG is endorsed as attached in Appendix 9.

AGENDA ITEM 7: REVIEW OF THE DRAFT CONCLUSIONS/DECISIONS OF THE FOURTH MEETING OF THE AERODROME AND AIRSPACE SUB-GROUP (AAO-SG/4)

7.1 The meeting agreed and convened on 14 September 2021 to discuss the Draft Conclusions and Decisions. The Draft Conclusions and Decisions are attached to this report as **Appendix 10**.

AGENDA ITEM 8: ANY OTHER BUSINESS (AOB)

8.1 There being no other business discussed under this agenda item, Mr. Prosper Zo'o Minto'o, Regional Director, ICAO Western and Central Africa Office, proceeded to officially close the meeting.

8.2 In his closing remarks, he expressed his gratitude, on behalf of ICAO, to the participating States and organizations and thanked them for their continued support to ICAO initiatives and activities. He went on to appreciate the Regional Officer ATM/SAR, WACAF RO, Mr. Albert Taylor, who would be retiring in the course of the year, noting that Mr. Taylor had been instrumental in fostering improved implementation of ATM services in the region and will be truly missed. He echoed the need to continue with the panel discussions in the future AAO-SG meetings and applauded Mr. Taylor, whom the novel idea was his brainchild.
