ICAO

SAFETY

RASG-AFI

Annual Safety Report 2014

First Edition

Issued in May 2015

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Foreword

The establishment of a Regional Aviation Safety Group for Africa and the Indian Ocean (RASG-AFI) was endorsed by the fourth Meeting of the Directors General of Civil Aviation Administration of the ICAO Western and Central African (WACAF), and Eastern and Southern African (ESAF), States held in Matsapa, The Kingdom of Swaziland, from 8 to 9 November 2010. However, the structure and terms of reference for RASG-AFI were approved by the first meeting of RASG-AFI which was held at the Imperial Royal Hotel in Kampala, Uganda, from 26 to 27 March 2012.

RASG-AFI monitors progress, coordinates actions among AFI States and makes recommendations to ICAO on means to facilitate the implementation of the Global Aviation Safety Plan (GASP) and the associated Global Aviation Safety Roadmap (GASR) within the AFI Region. It serves as a regional cooperative forum that would help to increase awareness of regional safety issues and at the same time provide a mechanism for addressing them. It is responsible for coordinating and monitoring the successful implementation of all safety initiatives in the AFI Region.

The RASG-AFI structure consists of a Chairperson, two (2) RASG-AFI Vice-Chairpersons from States and one (1) RASG-AFI Vice-Chairperson from Industry; a Steering Committee comprising; Secretariat (ICAO); Four Safety Support Teams; and an Annual Safety Report Team.

Contracting States entitled to participate as members in the RASG-AFI meetings are:
- those whose territories or dependencies are located partially or wholly within the area of accreditation of the ICAO Western and Central African (WACAF) and Eastern and Southern African (ESAF) Regional Offices (see Appendix 2 for the list of Members of RASG-AFI and Appendix 3 for Permanent Partners); and
- those located outside the area which have notified ICAO that aircraft on their register or aircraft operated by an operator whose principal place of business or permanent residence is located in such States, operate or expect to operate into the area; or which provide facilities and services affecting the area.

Contracting States not meeting the above criteria and non-Contracting States are entitled to participate in RASG-AFI meetings as observers. The aircraft operators, international organizations, maintenance and repair organizations, regional and sub-regional organizations, training organizations, aircraft manufactures, airport and air navigation service providers and any other allied organizations/representatives will be invited to attend the RASG-AFI meetings in the capacity of Partners.

RASG-AFI undertakes the following functions: analyze safety information and hazards to civil aviation at the regional level and review the action plans developed within the region to address identified hazards; facilitate the sharing of safety information and experiences among all stakeholders; ensure that all safety activities at the regional and sub-regional level are properly coordinated to avoid duplication of efforts; reduce duplication of efforts by encouraging collaboration, cooperation and resource sharing; conduct follow-up to GASP/GASR activities as required; coordinate with APIRG on safety issues; and provide feedback to ICAO to continually improve and ensure an up-to-date global safety framework.

A RASG-AFI-Steering Committee (RASC) composed of representatives from States and international/regional organizations and industry is established to guide the work of the Group. It acts as an advisory body to the RASG-AFI membership and undertakes any actions required to ensure that the RASG-AFI achieves its objective to reduce aviation risks in the AFI Region. It is headed by three co-chairpersons (two from States and one from the Industry). Its membership has been expanded to include the AFI Plan Steering Committee Chairperson, the Coordinator for the AFI Group at ICAO Council, and

the various Project Champions. Safety Support Teams (SSTs) were established, headed by Champions who are members of the RASC, for the following priority projects namely: Significant Safety Concerns (SSCs), Fundamentals of Safety Oversight (FSO), Accident Investigation (AIG) and Emerging Safety Issues (ESI). The term for the Chairperson, Vice-Chairpersons and Champions is 2 years.

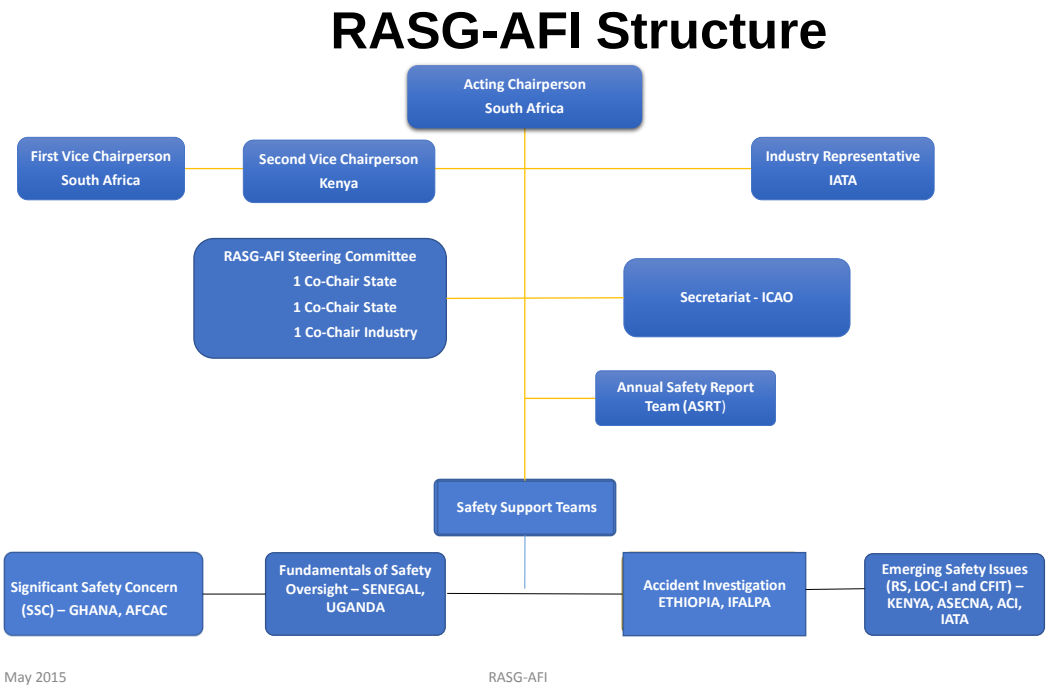
The following Safety Champions have been designated: SSC – Ghana and AFCAC; FSO - Senegal and Uganda; AIG –Ethiopia and IFALPA; and ESI – Kenya, ASECNA, and ACI.

The two AFI Regional Directors (ESAF and WACAF Offices) serve as Secretary to the RASG-AFI and APIRG on alternate basis, to balance the Secretariat responsibilities between these two regional groups.

RASG-AFI has established an Annual Safety Report Team (ASRT) comprising RASG-AFI Partners, for the purpose of: gathering safety information from different available sources to determine the main safety risks in the AFI Region; generating an Annual Safety Report; making recommendations to the RASG-AFI for safety enhancement initiatives; and preparing a draft progress report to the Air Navigation Commission (ANC).

This Annual Safety Report has a consolidated vision of aviation safety using sources of information from regional stakeholders, and serves as a key component of RASG-AFI. Therefore, RASG-AFI members are encouraged to share their safety data with the ASRT.

Figure 1: RASG-AFI Organizational Structure



1. Executive Summary

This First Edition of the RASG-AFI Annual Safety Report presents safety information collected from ICAO, Boeing, ACI Africa, IATA, and other aviation partners, particularly those related to aviation occurrences in the AFI Region, generally within the period 2010 to 2014, and the analyses performed by the Annual Safety Report Team (ASRT).
The Annual Safety Report includes the following three main sections:

1. Reactive safety information
2. Proactive safety information

The reactive safety information section represents the largest portion of the report. It contains analysis of accident data provided from the different sources in order to draw conclusions on areas that require much attention and make recommendations for resolving the safety deficiencies by means of mitigating and corrective measures.
The proactive safety information is based on the results of the ICAO USOAP-CMA and IATA IOSA and ISAGO, as well as, other occurrences (Incidents) reported by states or airlines in order to identify emerging risks in the Region.
This Report has not dwelled much on the predictive safety information as it relates to the collection and analysis of safety data to proactively identify safety concerns before accidents or incidents occur, to develop timely mitigation and prevention measures. However, it is expected that this aspect will be featured in subsequent editions of the Report, as the safety capacity of the RASG-AFI States evolves to maturity.
Analysis of available safety information on the AFI Region showed that the top category to focus safety enhancements is related to Runway Safety (Excursions - REs). Out of the eleven (11) accidents recorded in the RASG-AFI Region in 2014 for scheduled commercial operations involving aircraft with maximum take-off mass of 5700kg and above, six (6) were Runway safety related. There is therefore, an urgent need for concerted efforts by all aviation stakeholders to address this phenomenon, thereby drastically reducing the RASG-AFI accident rate to world average.

Notwithstanding, the following categories also need consideration:

Loss of Control In-flight (LOC-I)
Controlled Flight Into Terrain (CFIT)

LOC-I and CFIT occurrences showed decreasing trends, especially at the end of 2014; however, they continue to represent the highest accident fatality risks due to high energy involvement. Aircraft accidents are categorized using the definition provided in Annex 13 to the Chicago Convention—*Aircraft Accident and Incident Investigation.*

Results of the ICAO Universal Safety Oversight Audit Programme (USOAP), showed 33 States in the AFI Region that had low levels of Effective Implementation (EI) of ICAO SARPs (i.e. below 60% EI of the Abuja Safety Target) and 6 States were with SSCs. Current performance indications are that it is highly unlikely that the Abuja safety targets will be met on time; therefore, there is a need to revise strategies in order to improve the rate of implementation to a more acceptable level. The same results indicated that lack of adequate and effective technical staff qualification and training represents the most significantly affected USOAP Critical Element (CE) in the Region. Furthermore, the technical areas showing lowest levels of EI were Air Navigation Services (ANS), Aerodromes and Ground Aids (AGA),

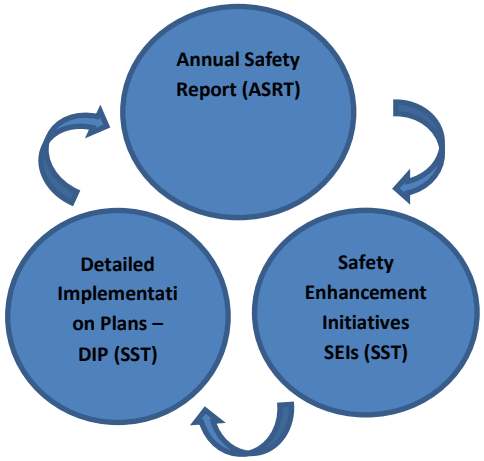
and Accident and Incident Investigation (AIG). Therefore, improvements in these areas should be amongst the priorities of the AFI Region.

State Safety Programme (SSP) is a framework that allows the State safety oversight authority and service providers to interact more effectively in the resolution of safety concerns. The Abuja Safety Targets require States with 60% EI and above to implement SSP (15 AFI States). However, the rate of implementation of SSP within the AFI Region has been considerably slow. Out of the 48 AFI States, none has so far attained Level 4 of SSP implementation. Only 14 States have initiated the implementation of SSP and the highest level attained is Level 2 (see Figure 14 and Table 1).

RASG-AFI is committed to improving aviation safety and fostering cooperation and communication/sharing of safety critical information among the principal aviation safety stakeholders in the AFI Region.

The diagram below illustrates the framework to be used by RASG AFI to identify and address safety risks in the AFI Region.

Figure 2: Framework for Identifying and Addressing Safety Risks

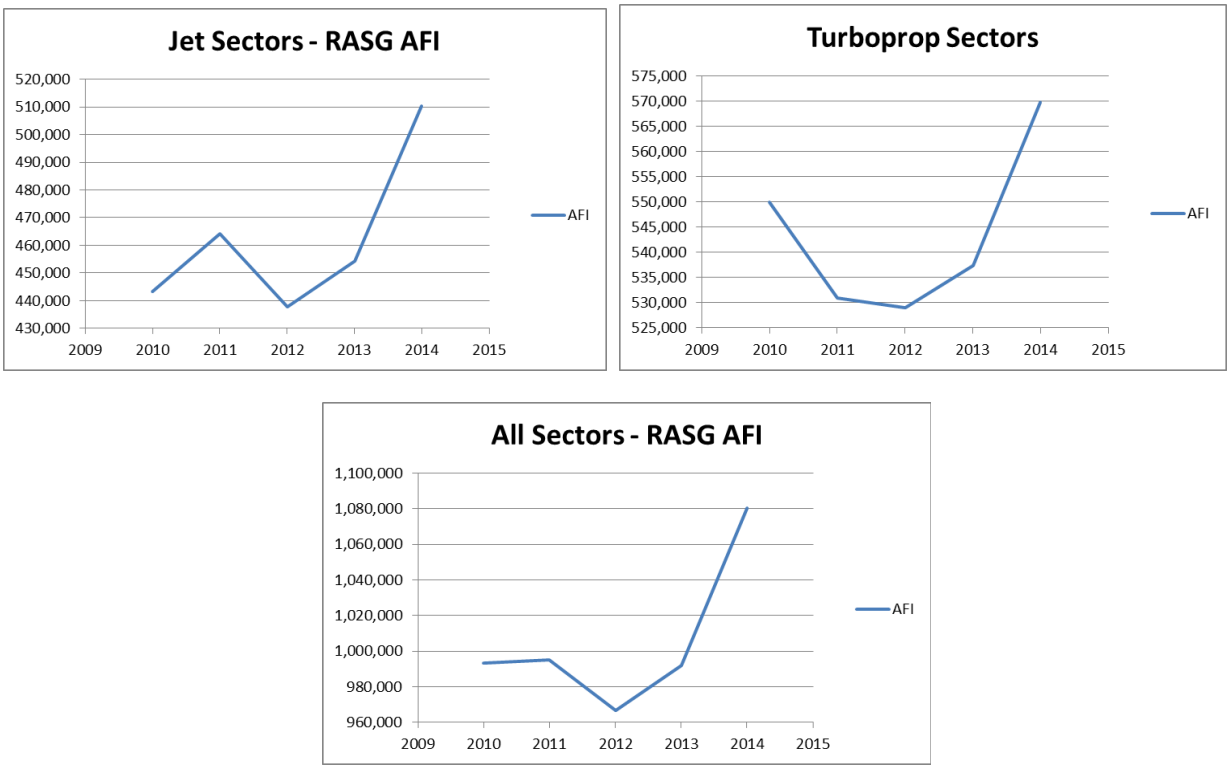


1.1 Regional Traffic Volume

While the air transport sectors flown in AFI Region came down from 2011 to 2012, there was a general growth in all types (Jet & Turboprop) from 2012 to 2014.

Please refer to the graphs below:

Figure 3: Regional Traffic Growth – Jet and Turboprop Aircraft in commercial operations.



Source: IATA

2. Safety Information and Analysis

The following sections show the results of safety information analysis in terms of reactive, proactive and predictive safety information.

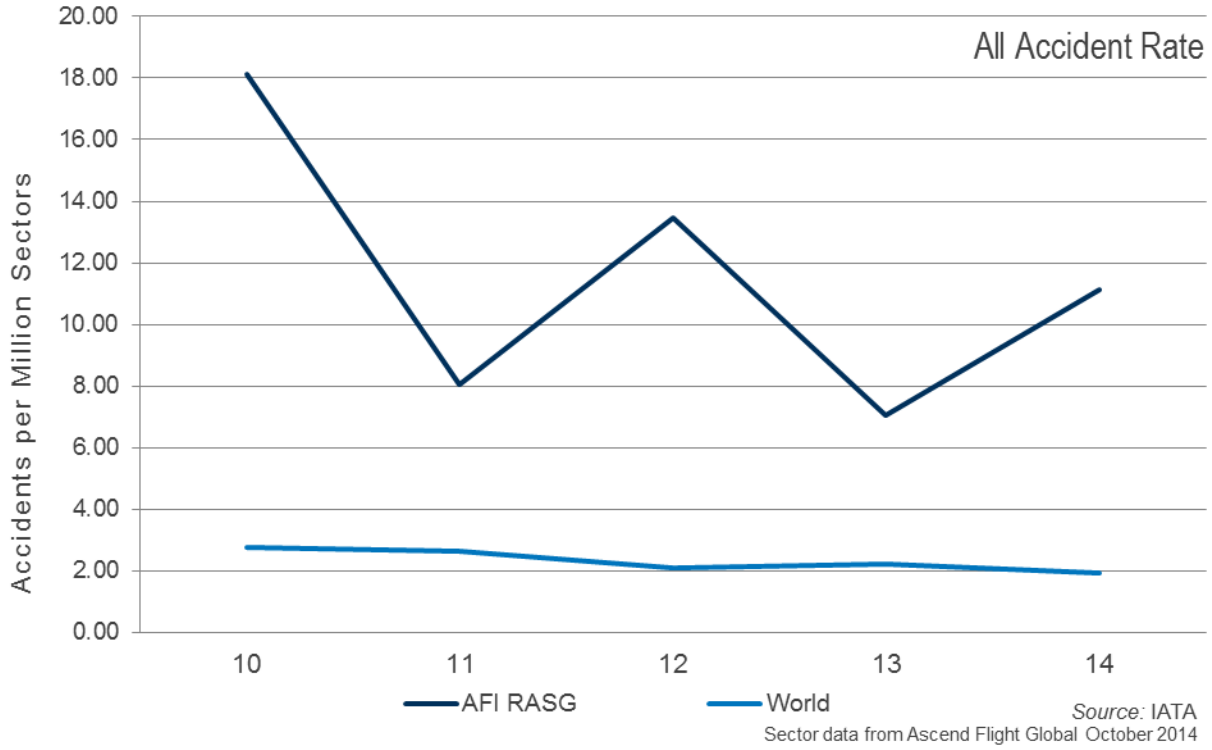
2.1 Reactive Safety Information

In accordance with the Abuja safety targets, accident rate should be progressively reduced to be in line with global average by end of 2015.
The process followed by the Annual Safety Report Team (ASRT) to analyse reactive safety information consisted of retrieving safety data from ICAO, IATA and Boeing.

2.1.1 Regional Accident Rates

The graph below represents the rate of occurrence of all accidents over the time period (2010-2014), per million flight sectors for operators from the AFI Region (dark blue) versus the World (light blue). This data is based on sectors of operators registered (AOC) in AFI.

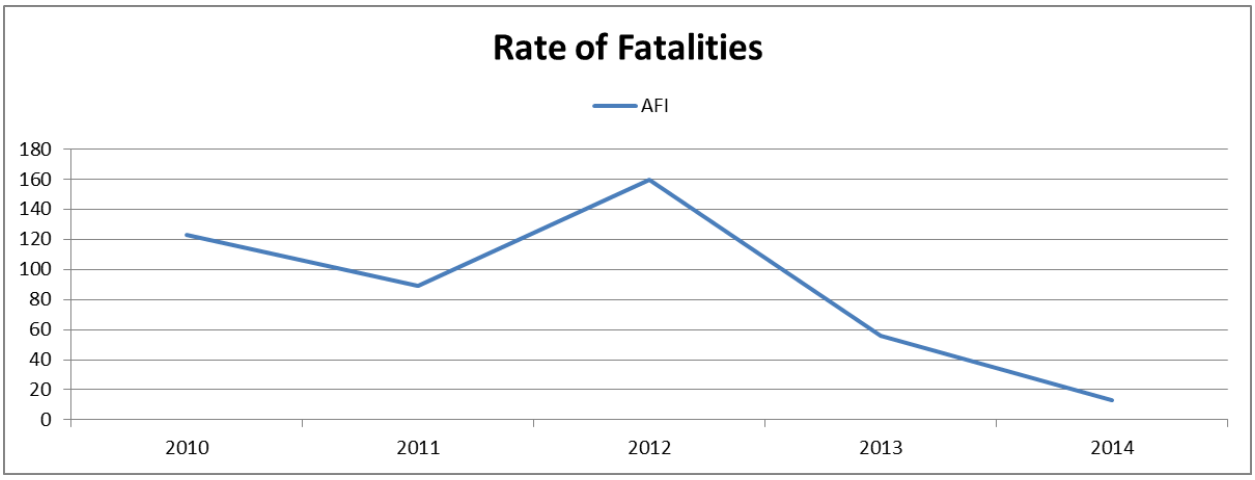
Figure 4: All Accident Rate RASG AFI versus World (2010 – 2014).



2.1.2 Regional Fatal Accident Rate

The fatal accident rate involving aircraft with maximum take-off mass of 5700kg and above, engaged in commercial scheduled flights, as indicated Figure 5, increased from 2011 to 2012 and but has been decreasing till December 2014.

Figure 5: RASG-AFI Regional Accidents and Fatalities



Source: IATA GADM

2.1.3 Analysis of AFI Accidents between 2010 & 2014

Based on an analysis of accident data covering the 2010–2014 time period, ICAO identified three high-risk accident occurrence categories:

• Runway Safety-related events

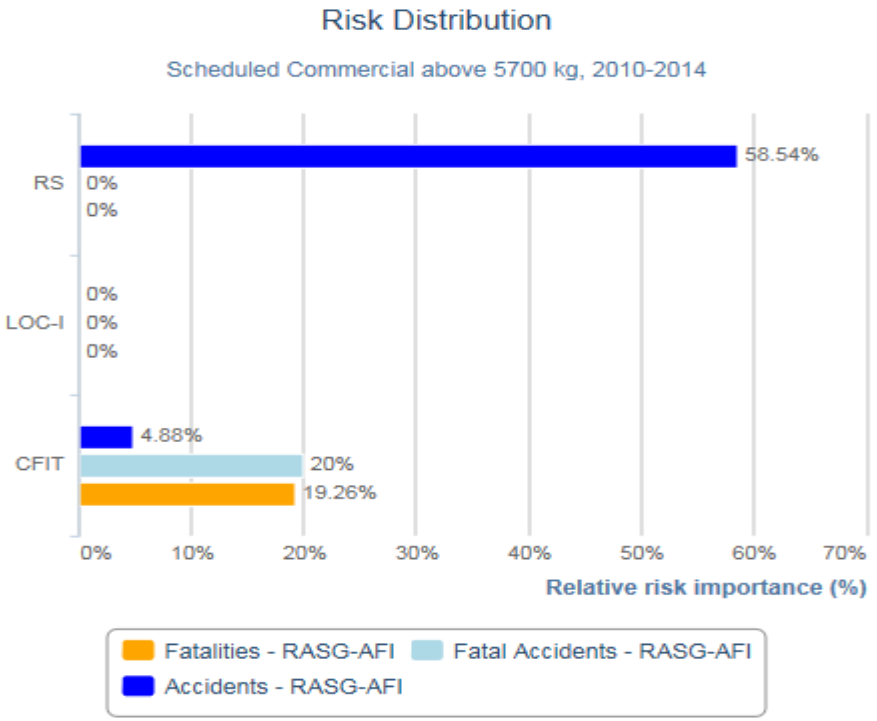
• Loss of Control In-flight (LOC-I)

• Controlled Flight into Terrain (CFIT)

As indicated in the Figure 6, these three categories represented 63.42% of the total number of accidents, 20% of fatal accidents and 19.26% of all fatalities between 2010 and 2014.

The figure shows that in these High-risk categories, more than 50% of those accidents were Runway Safety related, and the highest number of fatalities and fatal accidents occurred in the Controlled flight into terrain category.

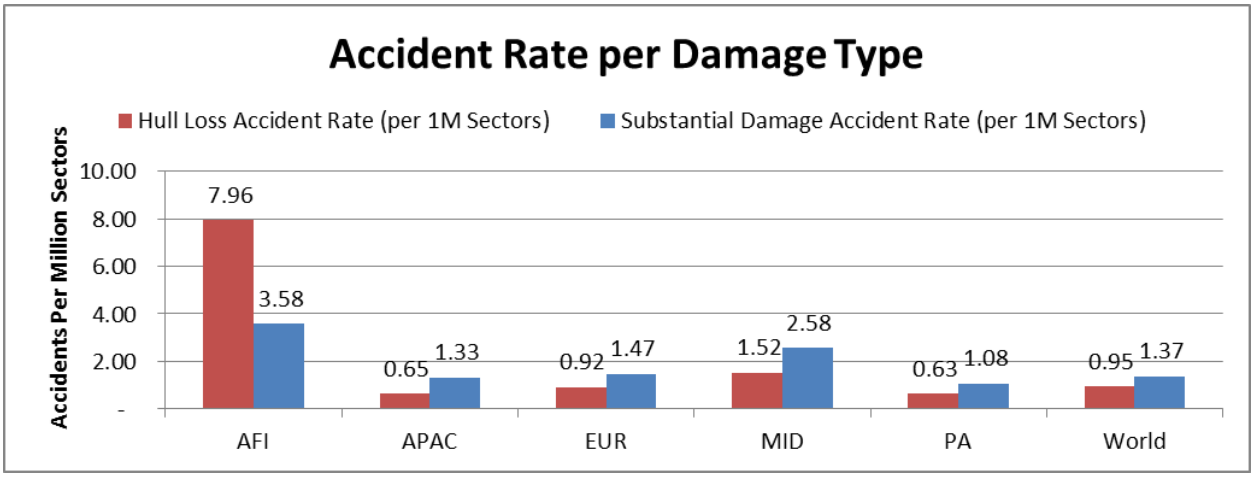
Figure 6: Distribution of High-risk Accidents for the period 2010 – 2014



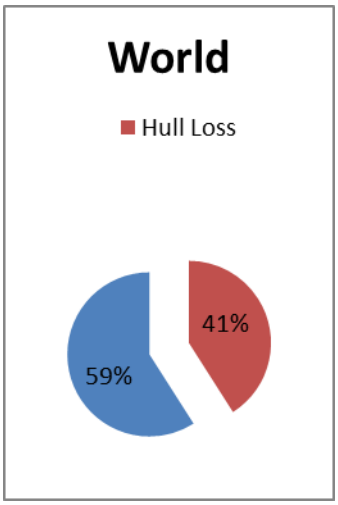
ICAO: iSTAR

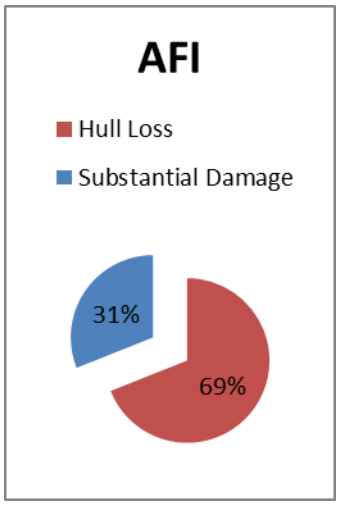
Figure 7: RASG-AFI Count and Rate of Accidents according to the Damage Type (Hull Loss or Substantial Damage) - Year 2014.

The graphs below show the count and rate of accidents according to the damage type (hull loss or substantial damage) per RASG Region of Operator for the year 2014.



Source: IATA GADM

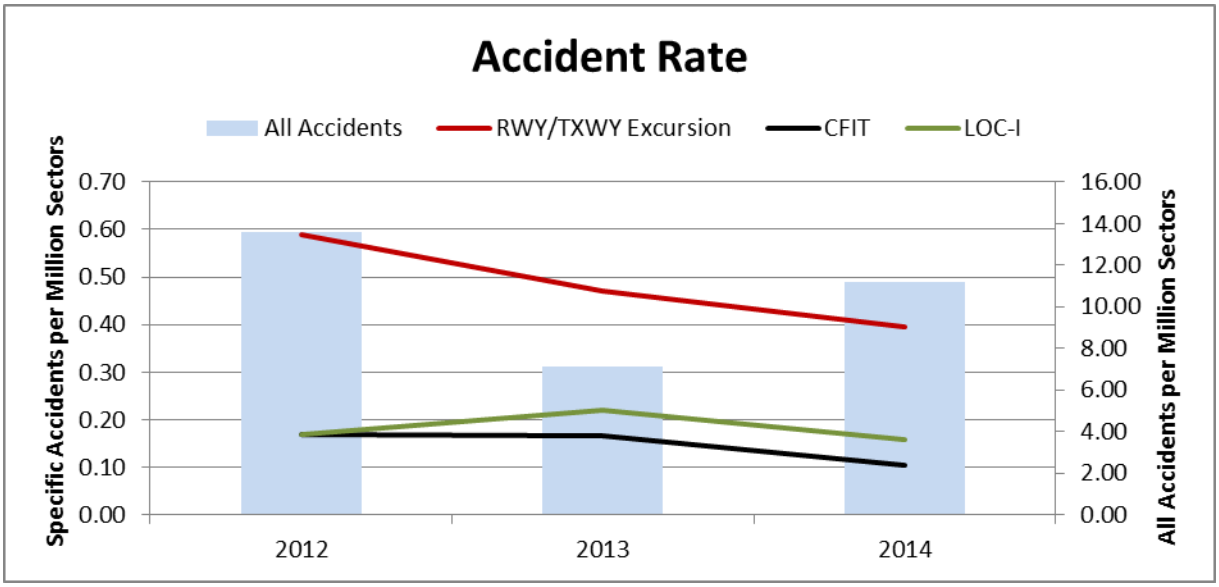




Source: IATA GADM

Figure 8: AFI Region High-risk Accident trend (2012 – 2014)

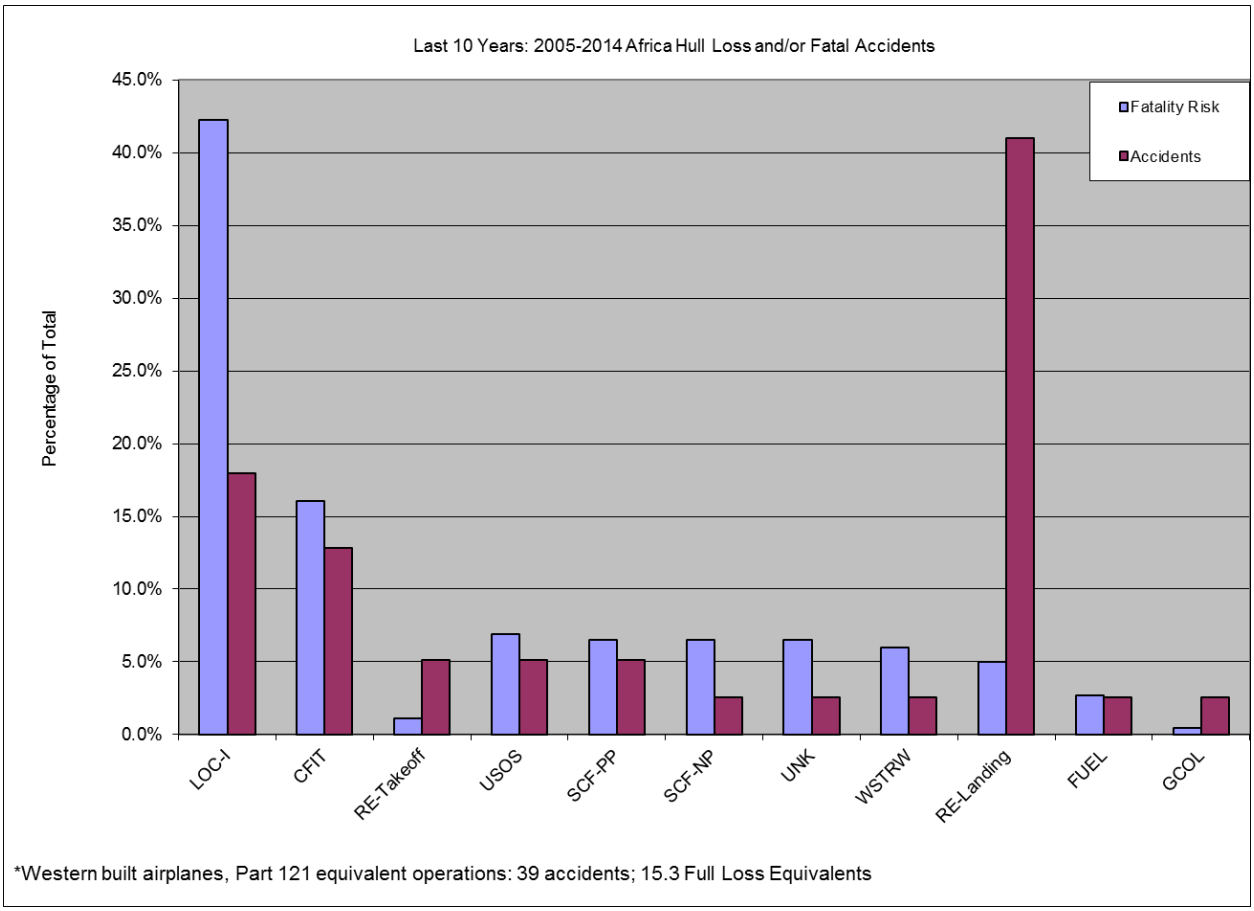
The graph below shows the trend for AFI Region in the three (3) accident occurrence categories for which targets were set in Abuja. Though there was a significant growth in traffic volumes since 2012 the rate had a slight downward trend.



Source: IATA GADM

Figure 9 AFI Hull Loss & Fatality Risk for 2005 - 2014

The graph below shows the Fatality Risk in comparison with the Hull Loss for Western-Built commercial airplanes with maximum take-off weight of 27000kg and above. The most frequent accidents in the AFI Region for the period were: LOC-I, CFIT and RE-Landing with LOC-I recording the highest fatality risk.



Source: Boeing

2.1.4. Summary Status of Implementation of Abuja Safety Targets – AFI Region

Safety Target	Situation as at end of 2014	Achievements
Reduce Runway related accidents and serious incidents by 50% by end of 2015	Runway Related Accidents had a rate of **0.59** per million sectors in 2012 and of **0.39** in 2014	Nine (9) Runway Safety Teams had been established at 9 international airports within AFI Region as of December 2014.
Reduce Controlled Flight Into Terrain (CFIT) related accidents and serious incidents by 50% by end of 2015	CFIT related Accidents had a rate of **0.17** per million sectors in 2012 as opposed to **0.11** in 2014	Fleet modernisation by AFI operators; Introduction of PBN procedures (APV) by AFI States.
Reduce LOC-I related accidents and serious incidents by 50% by the end of 2015	LOC-I related accidents had a rate of **0.17** per million sectors in 2012 as opposed to **0.16** in 2014	LOC-I Toolkit developed and two ICAO/IATA events (Symposium/Workshop) to be held in 2015
States to establish and strengthen autonomous Civil Aviation Authorities by end of 2013	Comprehensive data on status of CAAs not available. Although many States have in place, appropriate legal provisions establishing autonomous CAAs, effectiveness is still a challenge.	At least the fifteen (15) States that have attained the 60% EI Target, amongst the forty eight (48) AFI States have effective autonomy
Resolve ALL identified Significant Safety Concerns [existing ones by July 2013 and new ones within 12 months]	Six (6) States with SSCs	Reduction from 10 States in 2012 to 6 States in 2014
Implementation of State specific ICAO Plans of Actions by July 2013	Twenty nine (29) States have accepted ICAO Plans of Action and are at different stages of implementation	The Abuja Safety Targets are fully incorporated in the Plans of Action. Most States with ICAO Plans of Action have registered significant progress in the level of safety oversight

Progressively increase the Effective Implementation (EI) score of ICAO's USOAP results to no less than 60% (35% or 19 of all African States by end of 2013, and 70% or 38 of all African States by end of 2015 and 100% or 54 of all African States by end of 2017)	Fifteen (15) States have attained 60% of EI or greater	Number of States with EI of 60% or greater has increased from ten (10) in 2012 to fifteen (15) in 2014
Implement State Safety Programs (SSP) and ensure that all Service Providers implement a Safety Management System (SMS) by end of 2015	Comprehensive data on status of SSP/SMS implementation not available. However, none of the forty eight (48) States has attained level 4 implementation of SSP	Fourteen (14) States have initiated implementation of SSP and the highest attained is level 2
Certify all international aerodromes by end of 2015	Forty five (45) International Aerodromes in twelve (12) States were certified.	Twenty eight percent (28%) of the total number of two hundred and twenty nine (229) international airports within AFI had been certified as of December 2014.
Require all African airlines to obtain an IATA Operational Safety Audit (IOSA) certification by end of 2015	No comprehensive data available on the status of IOSA as a State regulatory requirement. By end of 2014 there were twenty four (24) operators from seventeen (17) States on the IOSA Registry	20 airlines had gone through IOSA training through an IATA sponsored initiative and 7 airlines had been added to the IOSA registry as of December 2014

2.2 Proactive Safety Information

2.2.1 ICAO USOAP Audits

In an effort to establish and implement an effective safety oversight system that reflects the shared responsibility of the State and the broader aviation community, each ICAO Member State should address

all of the eight Critical Elements (CE-1: Legislation; CE-2: Regulations; CE-3: Organisation; CE-4: Technical Staff Qualification & Training; CE-5: Technical Guidance & Tools; CE-6: Licensing, Certification, Approvals & Authorisations; CE-7: Continuous Surveillance; CE-8:Resolution of Safety Issues). These eight categories address the entire spectrum of a State's civil aviation oversight activities.

To standardize the conduct of its audits under the USOAP, ICAO has established audit protocol questionnaires. The protocol questions are based on the Chicago Convention, Standards and Recommended Practices (SARPs) established in the safety-related Annexes to the Convention, as well as associated ICAO guidance material including, but not limited to, the ICAO Safety Oversight Manual (Doc 9734—*The Establishment and Management of a State's Safety Oversight System and* Doc 9859 - *Safety Management Manual*).

Each audit protocol is a comprehensive checklist covering all areas of a State's safety oversight system subject to the USOAP audit process. Using the audit protocol as a guideline, auditors are then able to determine a State's capability for safety oversight.

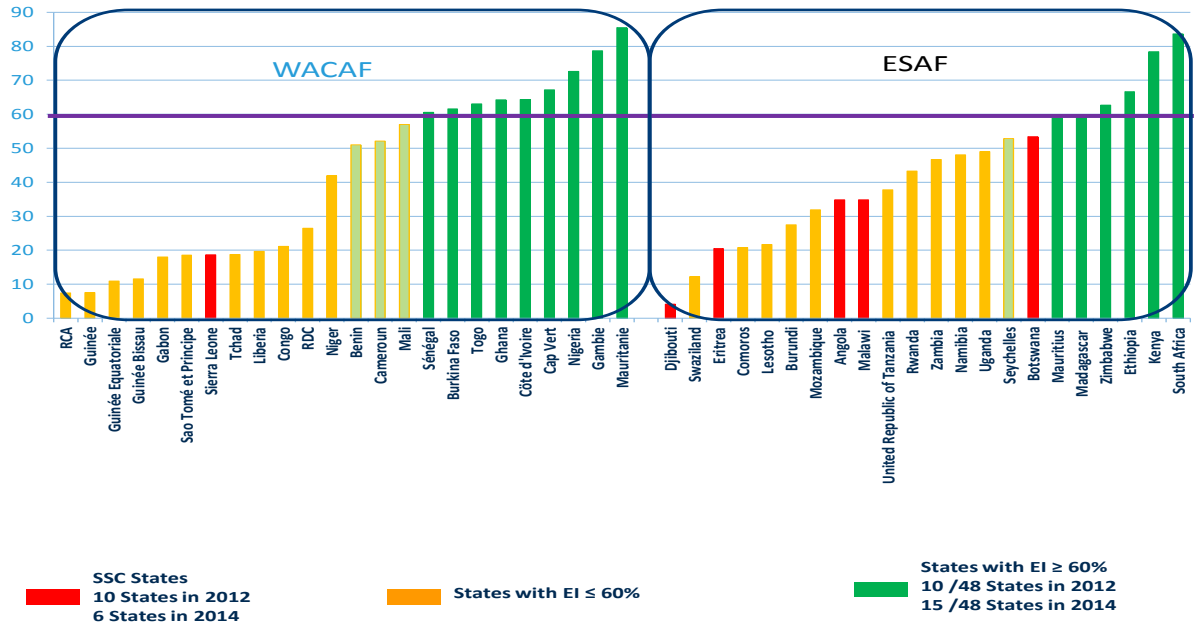
2.2.1.1 Regional Audit Results

As recorded in the ICAO regional Dashboard, AFI States accredited to both ESAF and WACAF Regional Offices have 6 States with SSCs (5 in ESAF and 1 in WACAF) and 15 States with at least 60% EI (6 in ESAF and 9 in WACAF).

As the 60% of Effective Implementation (EI) of the Critical Elements of a State safety oversight system target was set by African Ministers in Abuja in 2012, there are 15 RASG-AFI Member States with at least 60% EI and above. The Average EI% for AFI States was at 42% by the end of 2014.

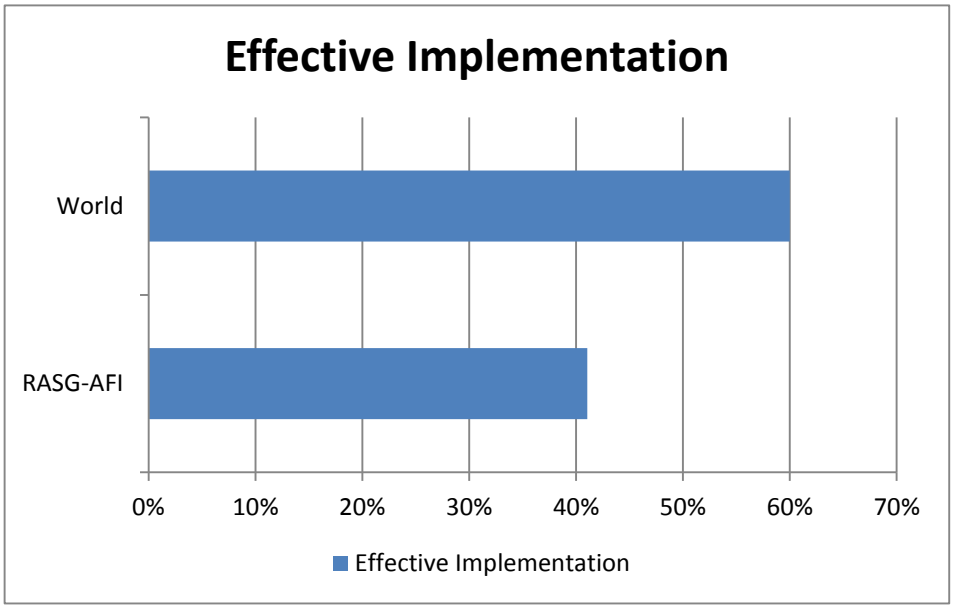
A new target set by the ICAO Regional Offices within AFI is that 50% of AFI States must reach the 60% target by the end of 2015. Figures 10 (a&b) below, depicts the status of the 46 audited, out of the 48, AFI States.As seen in Figure 10b below, the world average of Effective Implementation (EI) was 60% (this has now risen to 62%); while for the RASG-AFI region the average is 42%.

Figure 10a: Status of RASG-AFI States' Safety Oversight – %EI at the end of 2014.



Source: ICAO iSTAR

Figure 10b: Status of RASG-AFI States' Safety Oversight % EI Vs World %EI at the end of 2014.



Source: ICAO iSTAR

Figure 11: States Safety Oversight Maturity

The chart below indicates that 31% of the States in the RASG-AFI region have an EI of 60% or higher. The list of these States can be found in Appendix 3

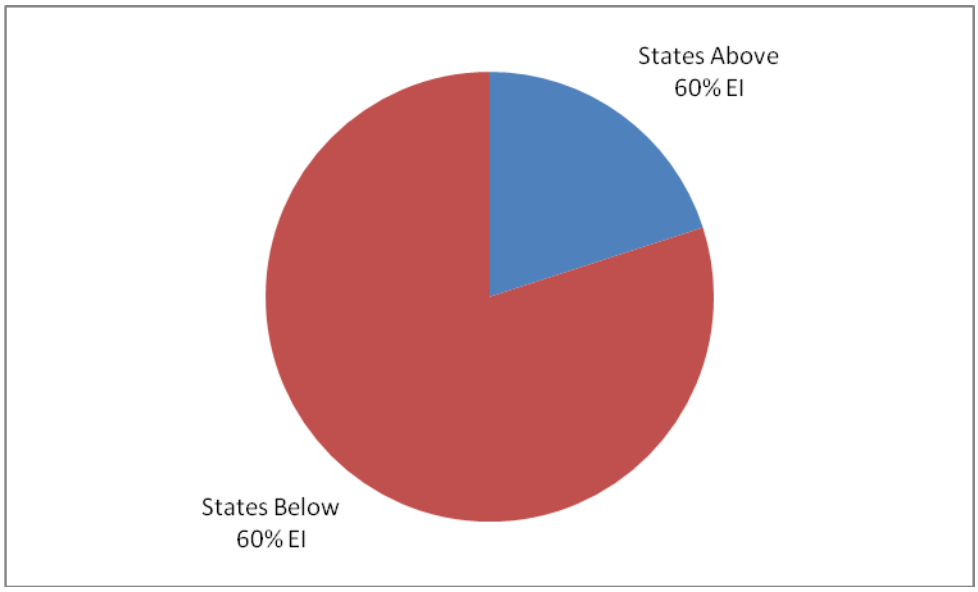
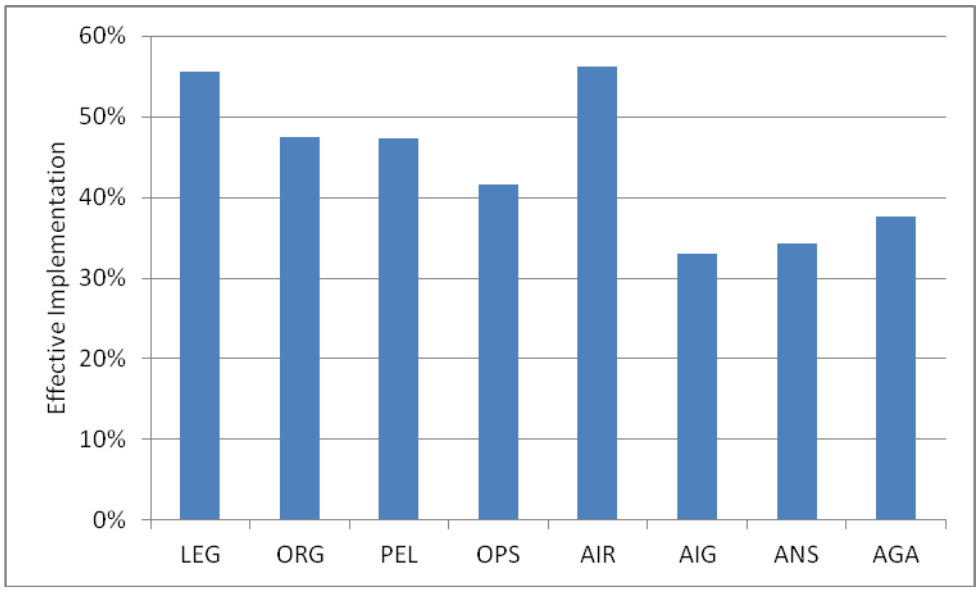


Figure 12: Effective Implementation of Safety Oversight Systems within RASG-AFI States by Area



In the AFI region, Effective Implementation in the area of AIR is highest at 56% and lowest in the area of AIG at 33% (see Figure 11 above). Effective Implementation by Critical Element (CE) indicates lowest score in CE-8 (Resolution of Safety Issues) followed by CE-4 (Technical Personnel Qualification and Training). See Figure 13 below.

Figure 13: Effective Implementation of Safety Oversight Systems within RASG-AFI States by CE.

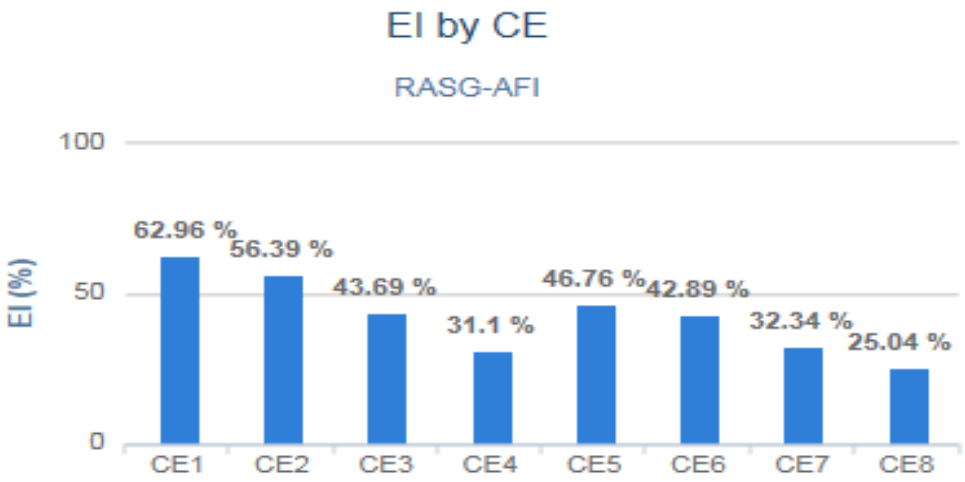


Figure 14: RASG-AFI States' Safety Programme Implementation (SSP) Progress.

SSP is a framework that allows the State safety oversight authority and service providers to interact more effectively in the resolution of safety concerns. The SSP statistics release high level information about each Gap Analysis project. SSP implementation project has been measured for each State using simple milestones as per the entered data.

A State having reviewed all Gap Analysis Questionnaire (GAQ) has reached Level 2.

A State having reviewed AND defined actions for all GAQs has reached Level 3.

A State having completed all actions has reached Level 4.

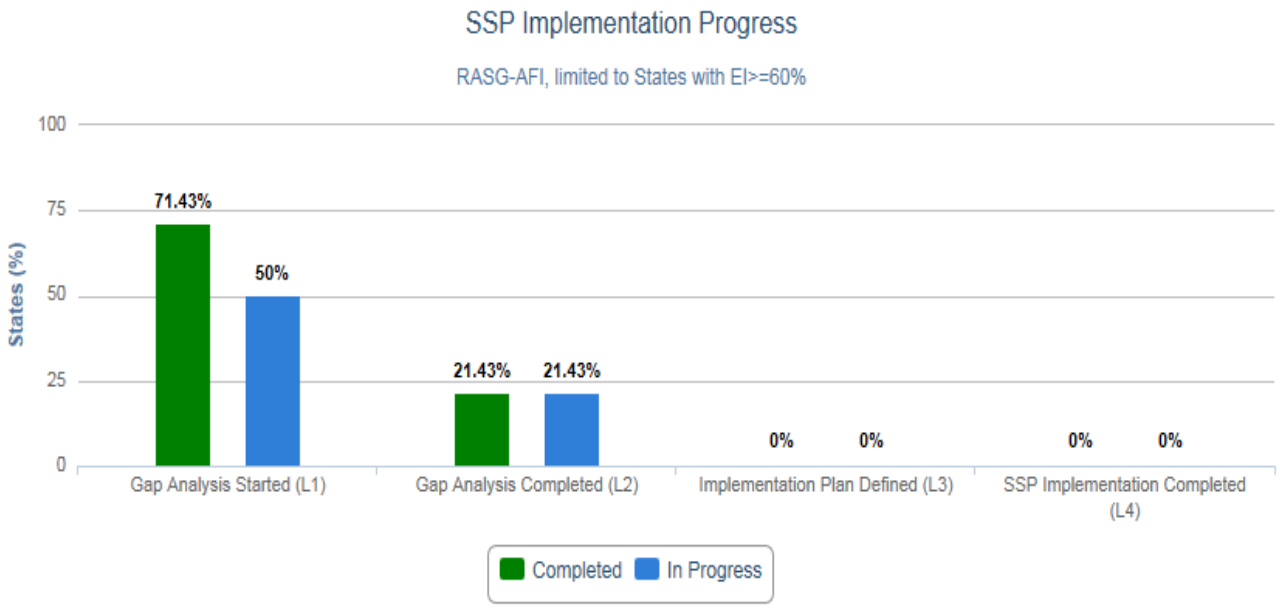


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Table 1: RASG-AFI States that have initiated the implementation of SSP.

Out of the 48 RASG-AFI States, none has so far attained Level 4 of SSP implementation. Only 14 States have initiated the implementation of SSP and the highest level attained is Level 2.

Search:

Code	State Name	Progress	Level (Up %)	
BFA	Burkina Faso	Gap Analysis Completed	L2 / 85.5% L3	
CPV	Cape Verde	-		
CIV	Cote d'Ivoire	Gap Analysis Started	L1	
ETH	Ethiopia	Gap Analysis Completed	L2 / 90.9% L3	
GMB	Gambia	-		
GHA	Ghana	Gap Analysis Started	L1	
KEN	Kenya	Gap Analysis Started	L1 / 56.4% L2	
MRT	Mauritania	Gap Analysis Started	L1	
NGA	Nigeria	-		
SEN	Senegal	Gap Analysis Started	L1 / 50.9% L2	
ZAF	South Africa	Gap Analysis Completed	L2 / 96.4% L3	
TGO	Togo	Gap Analysis Started	L1 / 29.1% L2	
UGA	Uganda	Gap Analysis Started	L1 / 07.3% L2	
ZWE	Zimbabwe	-		

Showing 1 to 14 of 14 entries

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Table 2: Regional Air Traffic Volume and Accident Data for 2014

Sub Region	Departures	Number of Accidents	Accident Rate (per million departures)	Number of Fatal Accidents	Number of Fatalities
RASG-AFI	752.6 K	8	10.6	1	116
RASG-APAC	8.5 M	20	2.4	1	162
RASG-EUR	8.0 M	18	2.3	1	298
RASG-MID	1.1 M	7	6.1	1	38
RASG-PA	12.8 M	29	2.3	0	0

ICAO: iSTAR

Table 2 above compares the air traffic volume, number of accidents, accident rates, fatal accidents and fatalities by sub-region for 2014. The Accident rate was highest in the RASG-AFI Region (10.6 per million departures), while RASG-PA had the least amount of fatal accidents (0), although it recorded the highest traffic volume.

2.2.2 Regional Safety Initiatives

Safety Support Teams were established as working groups to analyze safety risks pertinent to the AFI Region by using the GASP/GASR methodology and to propose appropriate mitigation strategies and projects in response to the identified risks. Four working groups have been established in the following areas:

- Significant Safety Concerns (SSCs) - To assist all SSC States resolve their SSC(s) within 12-months;
- Fundamentals of Safety Oversight (FSO) - To help improve Effective Implementation (EI) of the CEs to 60% by developing and implementing appropriate project proposals;
- Accident Investigation - To support the establishment and strengthening of National, as well as Regional Accident Investigation Agencies (RAIAs);
- Emerging Safety Issues - To assist in addressing:
  - Runway Safety related issues by developing appropriate project proposals;
  - Loss of Control In-flight (LOC-I) related issues by developing appropriate project proposals; and
  - Controlled Flight Into Terrain (CFIT) related issues by developing appropriate project proposals.

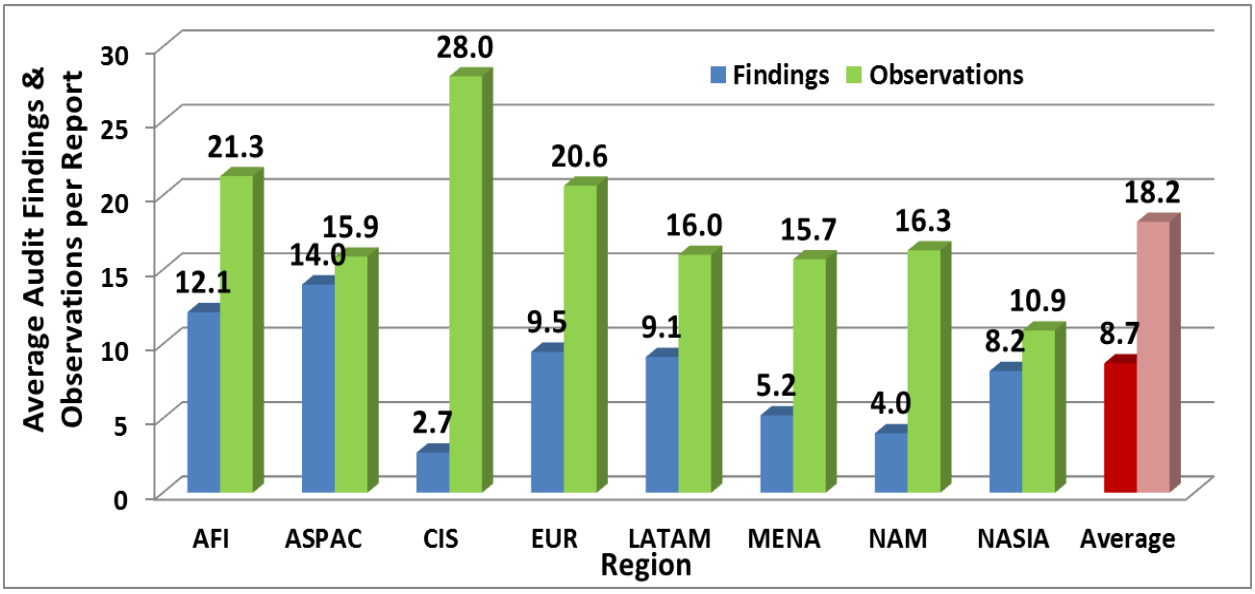
The RASG-AFI Steering Committee (RASC), at its first meeting, took a Decision to include Aeronautical Information Management (AIM) as part of emerging safety issues and that the transition of Aeronautical Information Services (AIS) to AIM be part of the activities. However, this Decision will be subject to endorsement by the RASG-AFI.

2.2.3 IOSA Audits

The IATA Operational Safety Audit (IOSA) is the benchmark for global safety management in airlines and is an internationally recognized and accepted evaluation system designed to assess the operational management and control systems of an airline.

IOSA scope covers 8 areas which include: Organization and Management (ORG), Maintenance (MNT), Cargo (CGO), Security (SEC), Flight Operations (FLT), Dispatch (DSP), Cabin Safety (CAB) and Ground Handling Operations (GRH).The analysis of IOSA audit results in the graph below shows the trend in audit findings as well observations for AFI versus other regions and the world average.

Figure 15: Trend in Findings & Observations per Region

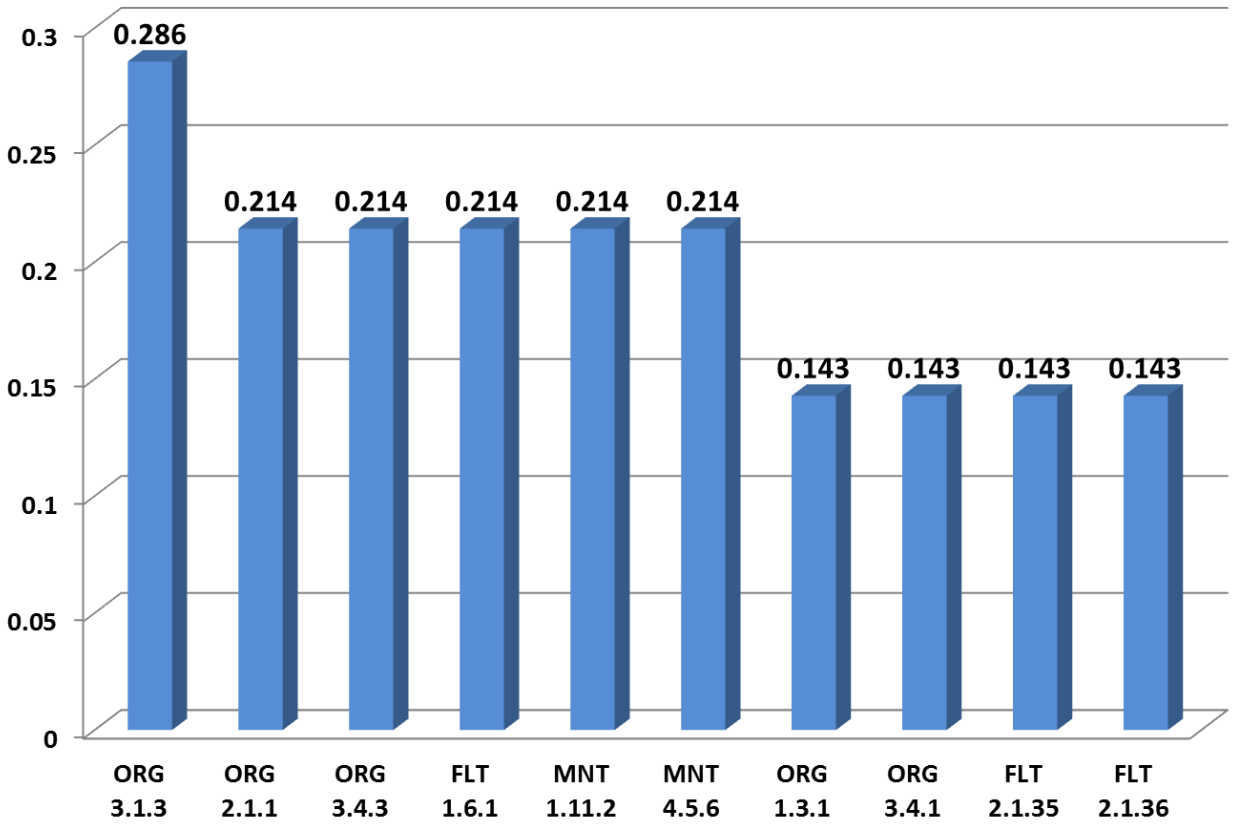


Source: IATA

The above pattern in findings and observations relates to IOSA audits conducted during 2014.

Figure 16: AFI Trend in IOSA Top Findings per Audit Area

The following graph shows the AFI trend in 2014 IOSA top findings per audit area where issues in Organisation and Management System featured the most followed by Flight and Maintenance at the same level. The pattern is unique for each region.

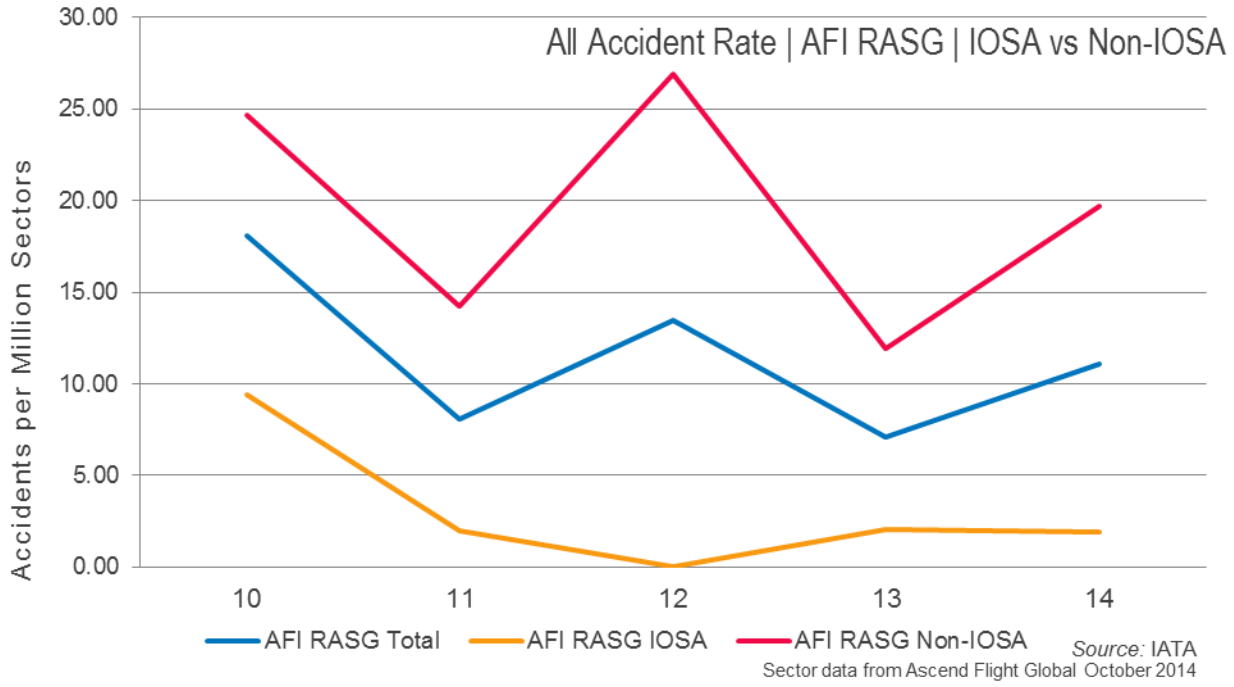


The IATA Operational Safety Audit (IOSA) was one industry best safety practice identified by RASG as a tool to improve airline and ultimately regional safety performance, hence the call for States to amend their regulations to require air operators to get IOSA certification by December 2015. States had not made any progress in this direction by December 2014 and all the audits that had been taken place since July 2012 (Abuja Declaration) were mainly through an IATA sponsored training initiative or to a minor extent on a voluntary basis.

The IOSA Registry currently has twenty-four (24) AFI airlines.

Figure 17: Accident Rate for IOSA versus Non-IOSA Operators in RASG-AFI Region

The graph below represents the rate of occurrence of all accidents over the period 2010-2014, per million flight sectors for operators from AFI Region (blue) versus AFI Region IOSA-registered operators (yellow) and AFI Region non-IOSA-registered operators (Red). It is therefore obvious to see how the IOSA certified operators have outperformed non-IOSA certified carriers in the Region.



2.2.4 RASG-AFI ATS Incidents Analysis Group (AIAG) /Air Navigation Infrastructure Safety

The RASG-AFI ATS Incident Analysis Group (AIAG) Meeting which has been convened and hosted by IATA every year since 2003 works on the following terms of reference:

The ATS Incident Analysis Group provides a forum to various States/ANSPs and international organizations including ICAO, IATA, IFALPA, AFRAA, and IFATCA to review reported incidents in the region and formulate recommendations to prevent similar incidents in the AFI region.

Mandate: the mandate of the ATS Incidents Analysis Group is to review on an annual basis all the ATS Incident reports available to the Group from any source, with a view to identifying causes, trends, and remedial actions that may prevent re-occurrence.

Composition: At the Core of the AIAG are IATA, ICAO, IFALPA and IFATCA. Attendance to the Group is open to all Air Navigation Service Providers in the AFI Region. Other Stakeholders can be invited to attend.

Secretariat: IATA Safety and Flight Operations AFI will provide the secretariat support to the Group. This will include the updating and maintaining of the database, compilation of ATS incident reports, preparation of annual meetings, preparation and distribution of meeting reports.

Reporting: Reports of AIAG will be disseminated to all participants, and any other relevant stakeholder for appropriate actions and information

Tasks:

a. Assess incidents by type, i.e., AIRPROX, procedure, facility as per ICAO definition, and establish degree of risk to the extent practicable.

b. Identify primary and contributory causes and recommend appropriate corrective actions thereto.

c. In the context of 2 above, develop submissions to be made to ICAO regional planning Groups, member airlines and other airspace users, States or other ATS Providers concerned with a view to addressing underlying causes or major trends.

d. Determine the extent to which IFBP was instrumental in identifying and/or solving conflicts and make appropriate recommendations that may enhance the effectiveness of the procedure.

e. Determine the extent to which TCAS (ACAS) was instrumental in identifying and/or solving conflicts and make appropriate recommendations that may enhance the effectiveness of the procedure.

f. Develop statistical analyses highlighting trends, inter alia by time period, by cause and by FIR/ATS Unit.

2.2.4.1 Twelfth Meeting of AIAG (AIAG/12) – March 11 to 12, 2015

The meeting which was convened by IATA was held at Balalaika Hotel in Sandton, Johannesburg and in attendance were: 21 ANSPs/CAAs, 13 airlines, AFI Regional Monitoring Agency (ARMA), International Civil Aviation Organization (ICAO), International Federation of Airline Pilots Association (IFALPA), International Federation of Air Traffic Controllers Association (IFATCA), World Food Program (WFP) and IATA.

The 12th AIAG meeting analyzed a total of eighty –eight (88) reports that were submitted either operators or by ANSPs for the year 2014.

Breakdown of Analyzed 2014 Incidents:

1. Out of the 88 Air Safety Reports (ASRs) analyzed during 12th AIAG meeting:

    - 22 reports were determined not to constitute incidents (Events and Non-events);
    - 7 reports were inconclusive, thereby resulting in a total of:
        - 21 ATS incidents and
        - 38 AIRPROX.

2. Among reports classified as AIRPROX:

    - 32 were classified as AIRPROX with high risk;
    - 6 were classified as AIRPROX with medium risk;

3. Out of the 88 incidents reported by operators, the concerned air navigation service providers provided feedback on 68 reports, for 20 incidents feedback was not received. Therefore feedback rate for 2014 is 77% for AFI region. Compared to 2013, there is a decrease in feedback rate partly due to the fact that main contributors (major AFI airlines) to the reporting faced some challenges at the beginning of the year in sending ASRs to ANSPs in time. This led ANSPs not to be in a position to provide feedback in some instances.

N.B. while those who provided feedback ranged from 67 to 100% it is interesting to note that ASECNA had 100%. However, of concern were: Democratic Republic Congo (0%), Malawi (0%) and South Sudan at 50%.

Figure 18: Statistics of AIRPROX, Air Safety Reports (related AIAG) and Reporting Airlines in AFI Region.

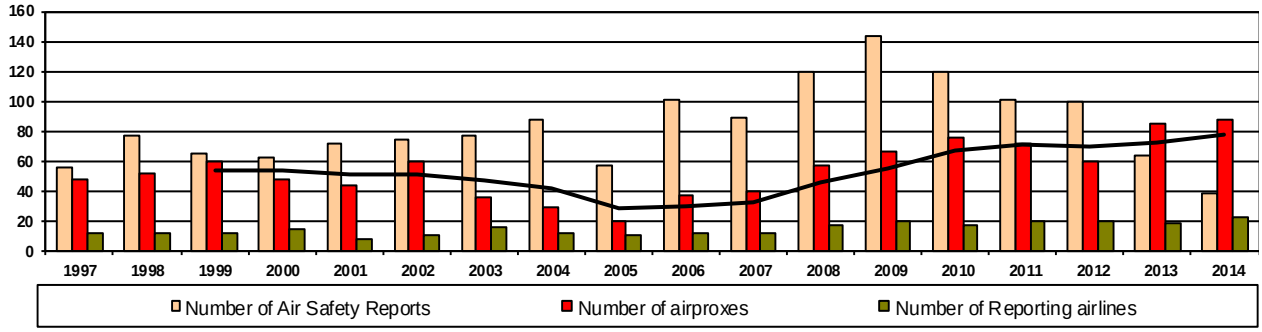
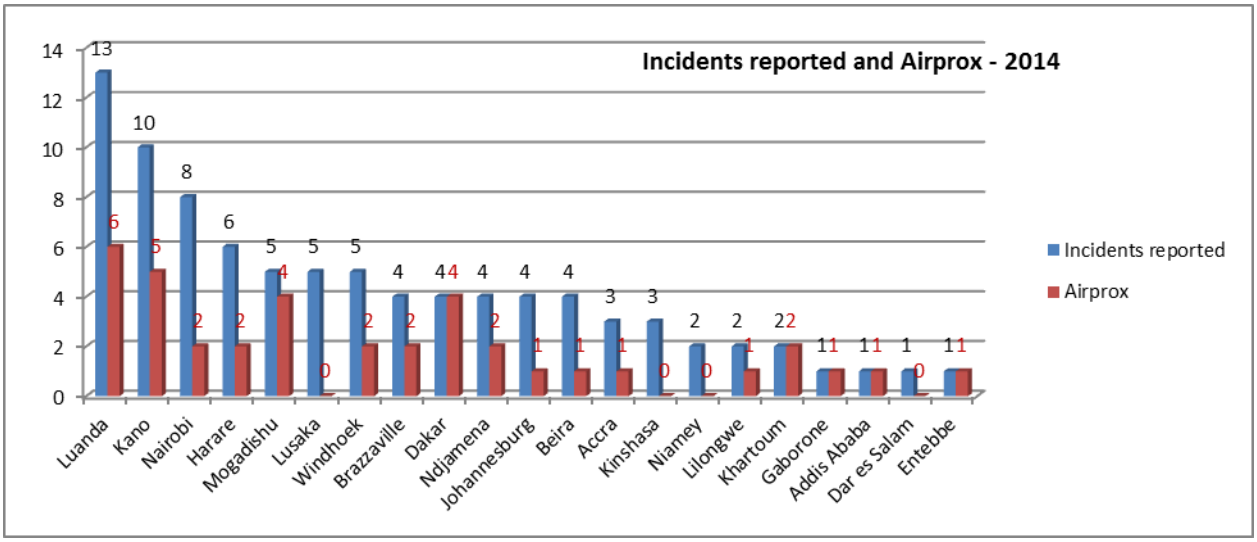


Figure 19: AIRPROX distribution per FIR – 2014



Source: IATA

While incidents related to AIAG are decreasing, the number of AIRPROX is still important. This shows that the root causes of incidents are still to be addressed by the concerned FIRs especially Kano, Luanda, Mogadishu and Nairobi FIRs. However in the case of Nairobi significant improvement has been noted following the ongoing re-structuring of the airspace.

2.2.4.1.1 Causes of Incidents and Contributing Factors

I. Human Factors - either ATC or cockpit crew, remain being the main cause of incidents or a combination factor:

- Human error was either the main cause or as combination factor causing

  incidents in thirty-four (34) instances:

  - ATC error/Lack of proficiency was contributing factor in twenty-nine (29) instances;
  - Crew error was contributing factor in five (5) instances;

- Non-compliance was either the main cause or as combination factor causing incidents in twenty-seven (27) instances.

  - Cockpit discipline/no compliance from crew was contributing factor in five (5) instances.

II. Lack of procedures/lack of appropriate procedures and lack of appropriate ATM operations constitute causes of incidents:

- Procedure was either the main cause or as combination factor causing incidents in twenty (20) instances.
- ATC overload was either the main cause or as combination factor causing incidents in seven (7) instances

III. The lack of coordination between ATC sectors, civil and military and FIRs is another cause of incidents or a contributing factor:

- It was either the main cause or as combination factor causing incidents in twenty (20) instances

IV. Lack of mobile communications continues to contribute to cause or a contributing factor to incidents:

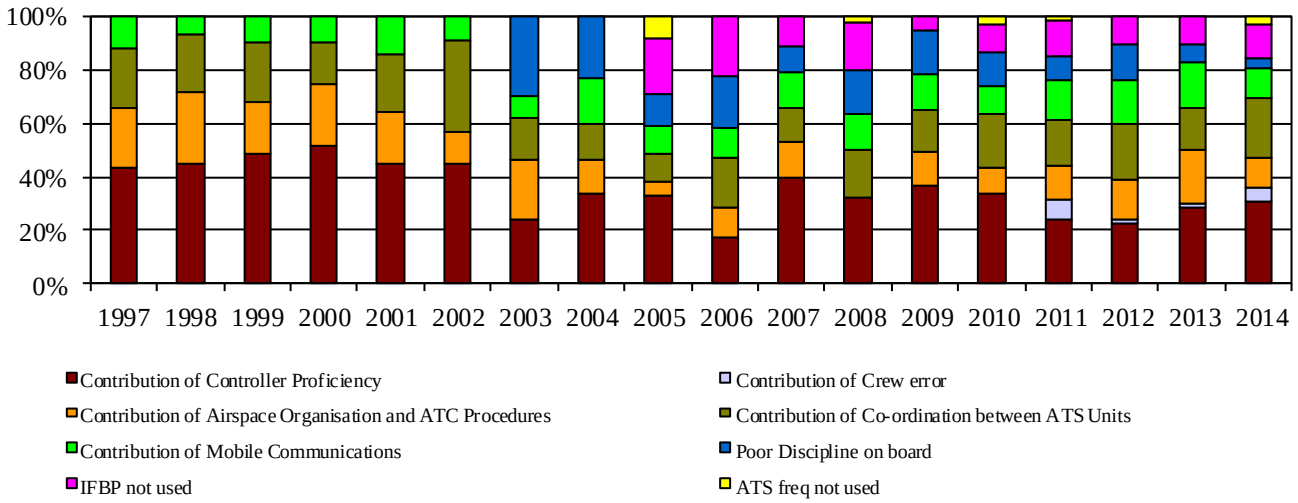
- It was either the main cause or as combination factor causing incidents in twelve (11) instances

V. Facilities (equipment) was the main cause of incidents in three (3) instances

VI. Deficiencies in airspace organization was contributing factor in ten (10) instances

VII. Crew failing to establish contact on IFBP was contributing factor in twelve (12) instances.

Figure 20: Factors Contributing to AFI ATS Incidents



Source: IATA

2.2.4.1.2 General Overall Recommendations of the 12th Meeting of AIAG

I. Management of human factors such as but not limited to fatigue, work load, working conditions, and equipment resulting in inadequate ATC proficiency factors need to be continuously addressed.
The SMS concept of "Just culture" appears to improve and Non-Punitive System and Just Culture should be implemented in the ACCs.

II. Addressing ATC staff shortages and assessment of airspace capacity by ANSPs to address properly, ATC workload in concerned FIRs.

III. Coordination between ATS units / FIRs needs to be improved. Civil military coordination bodies should also be implemented to support coordination between sectors.

IV. Emerging safety issues related to Unmanned Aircraft Systems (UAS) need to be addressed within concerned FIRs.

2.2.5 Conclusions and Recommendations

2.2.5.1 The identification of Focus Areas

- Based on the analyses, there are indications that the Abuja Safety Targets cannot be met and therefore, there is an URGENT need to revise strategies and review targets;
    - Challenges in proper monitoring of implementation of Abuja Targets due to lack of cooperation from states in providing safety critical information
    - The need for States to demonstrate ownership and commitment in implementing Abuja Targets
    - Accelerate the process of achieving autonomy of CAAs needs to be prioritised by States
    - The need for States to implement requirement for their air operators to undergo IOSA
    - The need for Champion States of Safety Support Teams (SSTs) to take more active role in accelerating the implementation of projects being undertaken
- Based on the accident statistics, RASG-AFI programs indications still direct focus on Runway Safety, LOC-I and CFIT related issues
- This report has not covered much in terms of Predictive aspects of safety information because the system within the AFI Region has not matured enough yet. However it is expected that enough data would be gathered for presentation in the next edition of this report.

2.2.5.2 Recommendations

- The Offices of ICAO President/Secretary General should closely engage Heads of States/Government Ministers responsible for aviation in a bid to establish autonomous CAAs and enhancing State commitment in implementing the Abuja Safety Targets
- There should be better coordination on AFI Regional initiatives to avoid duplication of efforts and inefficient use of resources
- All stakeholders to continue supporting programs that address causal factors to Runway Safety, LOC-I and CFIT accidents in AFI. In particular States/CAAs/Airport Operators to provide the necessary support for the establishment of Runway Safety Teams (RSTs) at International Airports
- Implementation of PBN (APV Procedures) should be supported by all stakeholders in AFI as well as equipage in order to address CFIT related accidents
- States to recognise the efforts of AIAG and provide needed support in addressing some of the challenges that have been recurring for many years but remain unresolved.
- States should have provision in their National Regulations that require their Air Operators to undergo IOSA certification

Appendix 1 –List of Member States of the RASG-AFI

Angola
Benin
Botswana
Burkina Faso
Burundi
Cameroon
Cape Verde
Central African Republic
Chad
Comoros
Congo
Côte d'Ívoire
Democratic Republic of Congo
Djibouti
Equatorial Guinea
Eritrea
Ethiopia
Gabon
Gambia
Ghana
Guinea
Guinea-Bissau
Kenya
Lesotho
Liberia
Madagascar
Malawi
Mali
Mauritania
Mauritius
Mozambique
Namibia
Niger
Nigeria
Rwanda
Sao Tome and Principe
Senegal
Seychelles
Sierra Leone
Somalia
South Africa
South Sudan
Swaziland
Togo
Uganda
United Republic of Tanzania
Zambia
Zimbabwe

Appendix 2 –List of Permanent Partners of RASG-AFI

Airports Council International (ACI)

African Civil Aviation Commission (AFCAC)

African Airlines Association (AFRAA)

Airbus Aircraft Manufacturer (AIRBUS)

Agence pour la Sécurité de la Navigation Aérienne en Afrique et à Madagascar (ASECNA)

Boeing Commercial Airplane Company (BOEING)

Civil Air Navigation Services Organization (CANSO)

Cooperative Development of Operational Safety and Continuing Airworthiness Project (COSCAPs)

European Aviation Safety Agency (EASA)

Federal Aviation Administration – United States of America (FAA-USA)

Flight Safety Foundation (FSF)

International Air Transport Association (IATA)

International Federation of Airline Pilots Association (IFALPA)

International Federation of Air Traffic Controllers Association (IFATCA)

Regional Safety Oversight Organizations (RSOOs)

World Food Programme - United Nations (WFP-UN)

Appendix 3 –List of States Having USOAP Safety Oversight Effective Implementation (EI) of 60% and above as at December 2014

Burkina Faso

Cape Verde

Cote d'Ivoire

Ethiopia

Gambia

Ghana

Kenya

Madagascar

Mauritius

Mauritania

Nigeria

Senegal

South Africa

Togo

Zimbabwe

Appendix 4 – Certified AFI International Airports

The only available data for monitoring the certification of aerodromes within the AFI Region was via voluntary reporting. Unfortunately Letters and Questionnaires were in many cases unanswered.

To overcome this problem, ACI surveyed all its members on the question of certification and the data presented is as a result of the responses received. The figures presented are subject to the following qualifications:

- Not all aerodromes in Africa are members of ACI
- Not all members responded to the questionnaire

However, on the best available information, the following data was compiled; from which it could be noted that:

- Total number of Aerodromes on the database: 229
- Total Number of Certified Aerodromes: 47
- Total percentage of Certified as per database: 21%

Appendix 5: Acknowledgement

RASG-AFI acknowledges the efforts made by, and thanks the members of the RASG-AFI Annual Safety Report Team (ASRT) that contributed to the production of this *RASG-AFI Annual Safety Report – First Edition.*

Blessing KAVAI ……..…….…… IATA
Kebba Lamin JAMMEH …… ICAO
Chamsou D I-ANDJORIN……...Boeing

- AFCAC
- AFRAA
- CANSO / ASECNA
- Boeing
- Airbus
- ACI Africa
- Other members to be co-opted based on interest and need

ABBREVIATIONS

ACC – Area Control Centre
ACI – Airports Council International
AFI – Africa and Indian Ocean
AI – Accident Investigation
AIAG – AFI ATS Incident Analysis Group
ANC – Air Navigation Commission
ANSP – Air Navigation Service Providers
AOC – Air Operator Certificate
APAC – Asia Pacific
ASR – Annual Safety Report
ASRT – Annual Safety Report Team
ATC – Air Traffic Control
ATM – Air Traffic Management
ATS – Air Traffic Services
CAA – Civil Aviation Authority
CIS – Commonwealth of Independent States
CMA – Continuous Monitoring Approach
ESAF – Eastern and Southern Africa
ESI – Emerging Safety Issues
EUR – Europe
FIR – Flight Information Region
FLT – Flight
FSO – Fundamentals of Safety Oversight
IATA – International Air Transport Association
ICAO – International Civil Aviation Organisation
ICVM – ICAO Coordinated Validation Mission
IFALPA – International Federation of Airline Pilots' Association
IFATCA – International Federation of Air Traffic Controllers' Association
IFBP – In-Flight Broadcasting Procedures
IOSA – IATA Operational Safety Audit
ISAGO – IATA Safety Audit of Ground Operations
LATAM – Latin America
MENA – Middle East and North Africa
MID – Middle East
MNT – Maintenance
NAM – North America
NASA – North Asia
ORG – Organization and Management

PA – Pan American
RASC – RASG AFI Steering Committee
RASG – Regional Aviation Safety Group
RE – Runway Excursion
RI – Runway Incursion
RWY – Runway
SARPs – Standard and Recommended Practices
SMS – Safety Management Systems
SSC – Significant Safety Concerns
SSP – State Safety Programme
SST – Safety Support Team
TXWY – Taxiway
USOAP – Universal Safety Oversight Audit Programme
WACAF – Western and Central Africa

ICAO's Aviation Safety Partners