State Safety Risk Picture

Uganda Experience

Aguma Agnes

SSP Coordinator

UGANDA

Outline

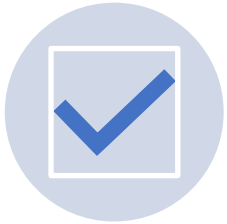
1. Introduction
2. Creating a State Risk Picture
3. Stakeholder Collaboration
4. Challenges
5. Areas of Improvement
6. Conclusion

Introduction - Risk Picture

Visual and Analytical representation of aviation safety risks within an aviation system

Reflects a clear understanding of where significant risks are in an aviation system

Aims to identify and mitigate safety risks to improve overall aviation safety



SSP is implemented to better manage aviation safety risks within a State

Component 2: State Safety Risk Management- core component of the SSP

Significance of a Risk Picture

Guides decision-making

Efficient allocation of limited resources

Focus on significant safety risks

Significance of a Risk Picture

Aviation Safety Planning – NASP

Defining Safety Objectives - component 1 and 3

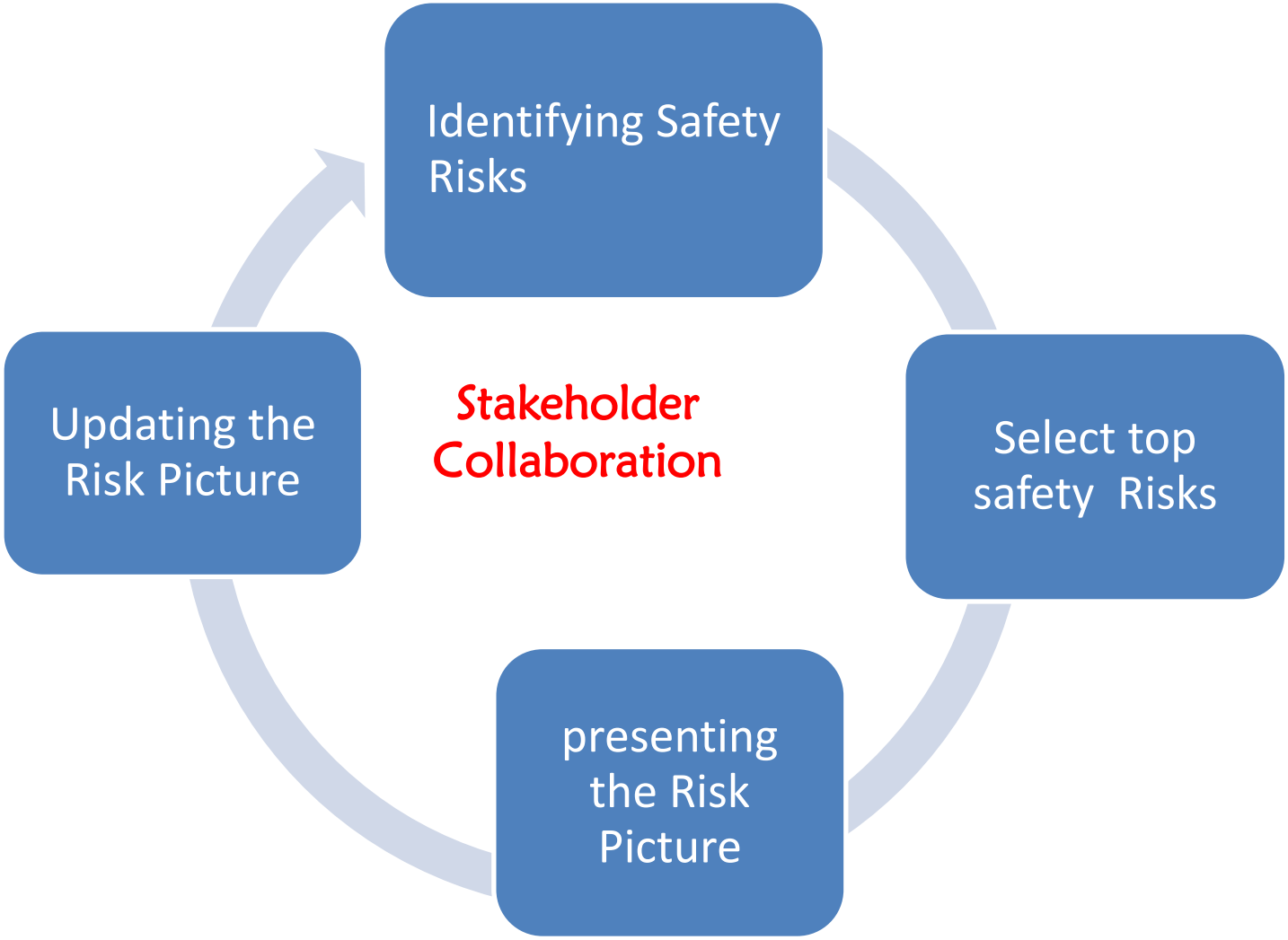
State Safety Risk Management

State Safety Assurance – objectives, SPIs , SPTs

Performance Measurement

Management of Change

Establishing the Risk Picture



1. Identifying Safety Risks

- Collect pertinent information and data
- Quantitative and Qualitative analysis of safety data and information
- Safety Data and Information Sources
  - Safety occurrence reports – MORs and VORs
  - Investigation reports
  - ICAO iSTARS – accident and incident reports
  - State briefing – iSTARs
  - USOAP CMA On line framework

Identifying Safety Risks

SSP Office

Compiles all reports to be considered

- Safety occurrence reports
- USOAP CMA
- iSTARs

SSP Committee

Evaluates the reports – standardised framework
Lists the challenges and risks identified

Focus Group

- Brain storm
- Select top deficiencies
- Draft list of top national issues

Safety Data and Information Sources

- Safety occurrence reports – MORs and VORs
- Accident and incident reports
- iSTARs
  - State Safety Briefing – GASP Targets
  - SSP foundation
  - SSP Gap Analysis
- USOAP CMA Online framework
- Investigation reports

Framework for Identifying ORG Challenges

Criteria	Methodology
Operational context description State's safety oversight system and capabilities State safety programme (SSP) establishment and management Consideration of Global and Regional Organizational (ORG) Challenges in setting National one	1. Analyse available data sources – traffic volumes 2. Analyse information using ICAO tools and applications – iSTARS (State Safety Briefing, SSP Foundation) 3. Analyse information generated by USOAP CMA activities (via OLF) 4. Assess the Civil Aviation Organization & State System and Functions (ORG/CE-3) using information generated by USOAP CMA OLF 5. Analyse GASP and AFI RASP to identify common ORG Challenges 6. Consider impact of current and anticipated socio-political issues affecting traffic volume and operational complexity

State Safety Briefing

UGANDA in ESAF

Automatically Generated by ICAO/ANB 2024-10-28

Performance Dashboard

State Safety Briefing

Indicator	Target	Value	Achieved
USOAP EI *USOAP overall EI(%)*	75%	72.42%	No
Significant Safety Concerns (SSCs) *Number of SSCs*	0	0	Yes
Fatal Accidents *Number of fatal accidents in last 5 years*	0	0	Yes
Aerodrome Certification *Validated status of USOAP Protocol Questions (PQ) 8.081, 8.083 and 8.086*	Satisfactory	Satisfactory	Yes
State Safety Programme (SSP) Foundation *Percentage of SSP Foundation protocol questions (PQs) validated by USOAP or submitted as completed*	100%	75.95%	No
State Safety Programme (SSP) *Level of SSP implementation*	Level 2	Level 3	Yes
IOSA *Number of IOSA certified operators*	>0	0	No

State Safety Briefing

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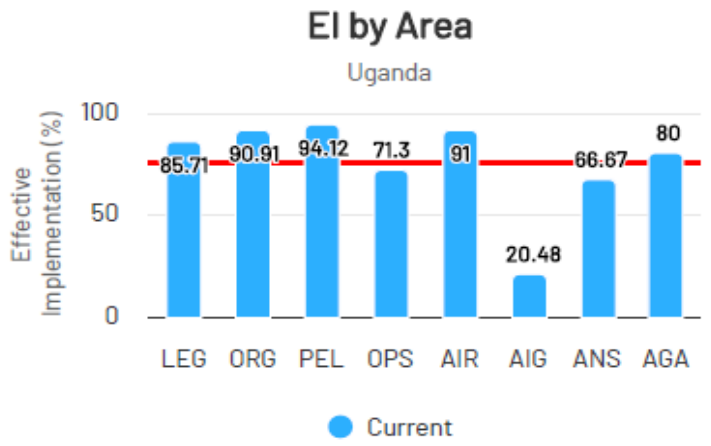
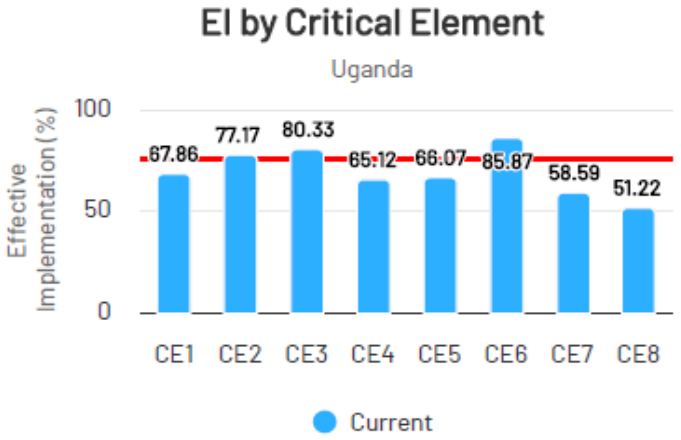
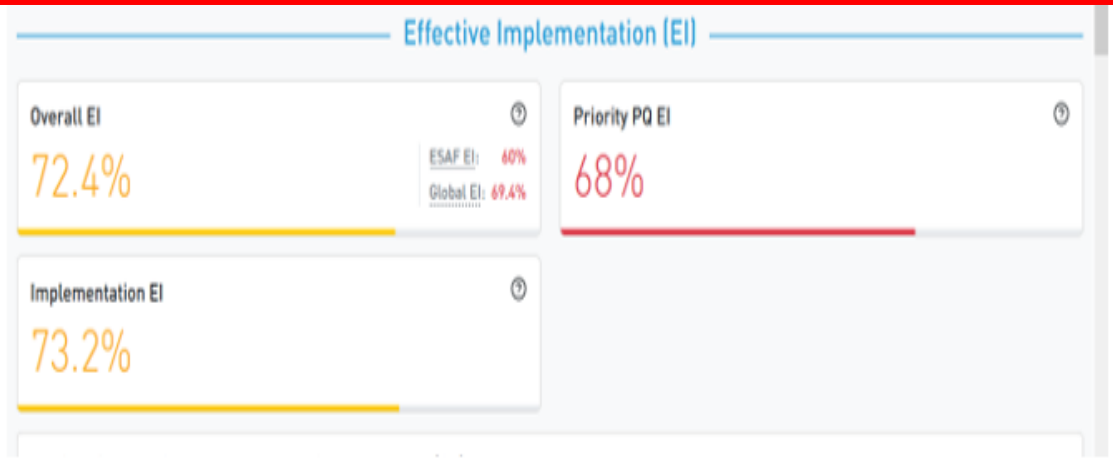
5 areas and 3 critical elements are above the target of 75% EI.





USOAP CMA Result Analysis



EI Score by CE

CE-1	CE-2	CE-3	CE-4	CE-5	CE-6	CE-7	CE-8
67.86 %	77.17 %	80.33 %	65.12 %	66.07 %	85.87 %	58.59 %	51.22 %

EI Score by Audit Area

LEG	ORG	PEL	OPS	AIR	AIG	ANS	AGA
85.71%	90.91%	94.12%	71.3%	91%	20.48%	66.67%	80%

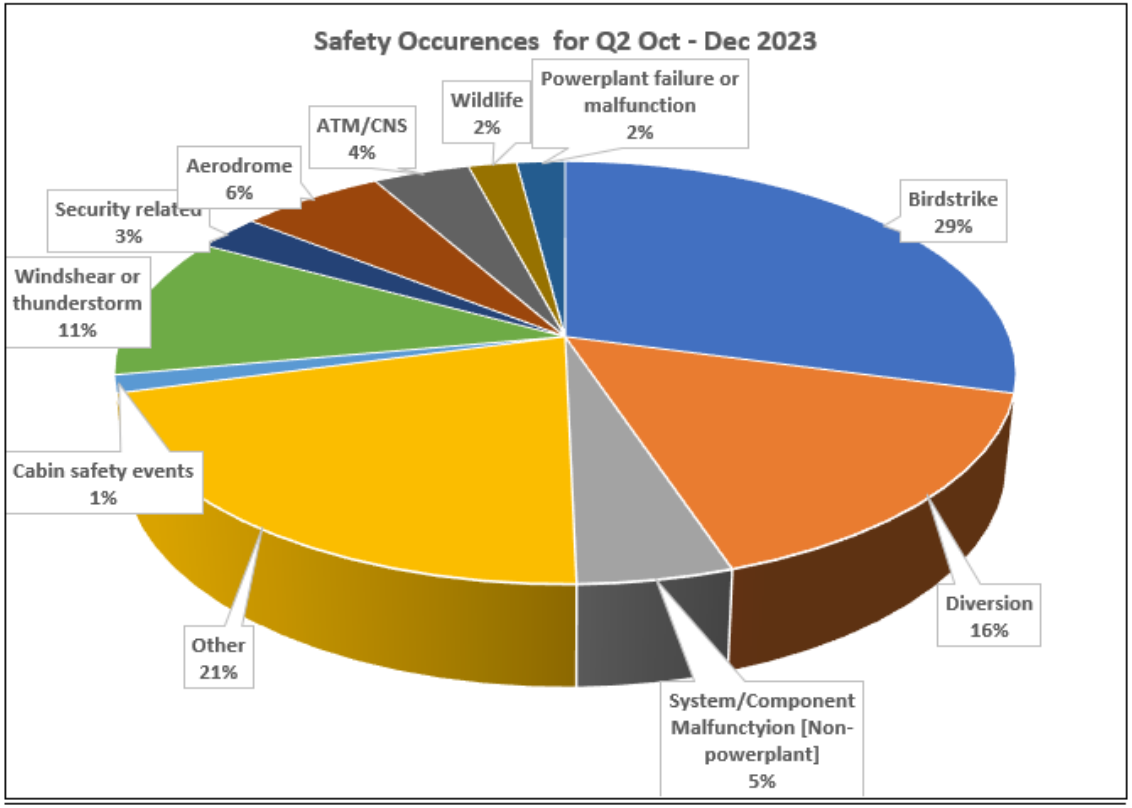
- AIG lowest and **below** ESAF and Global averages
- CE -1 67.86 % is **below** the ESAF average of 72.64% and global average of 77.36%
- CE -8 – 51.22 % lowest and above the ESAF average of 35.83% and **below** global of 55.4 %
- CE-7 – 58.59 % 2nd lowest and above ESAF of 45.35% and **below** global of 61.33%

STANDARDIZED FRAMEWORK FOR THE IDENTIFICATION OF NATIONAL HIGH-RISK CATEGORIES OF OCCURRENCES

Note.– The criteria below may be used for inclusion and removal of occurrences from the HRC list

Criteria	*Specifics*	*Methodology*
Fatality	Fatalities by accident occurrence categories (as per the Commercial Aviation Safety Team/ICAO Common Taxonomy Team (CICTT))	1) Analyse the classification of occurrences 2) Identify categories that resulted in the highest number of fatalities
Fatality risk	Fatality risk by accident or serious incident occurrence categories (as per CICTT)	1) Analyse the classification of occurrences: 2) Identify categories that are linked to occurrence categories with the highest number of fatalities (as severity outcome) • For example, serious incident coded as "MAC" due to air proximity issues, TCAS/ACAS alerts, loss of separation as well as near collisions or collisions between aircraft in flight would be included due to the fatality rate associated with a mid-air collision
Number of accidents and serious incidents	Number of accidents or serious incidents by occurrence categories (as per CICTT)	1) Analyse the classification of occurrences 2) Identify categories that resulted in the highest number of accidents and serious incidents
Breakdown (based on a minimum of 5-year data set)	Frequency of occurrences	1) Use a 5-year rolling average 2) Consider including use of rate-based data (e.g., sectors flown)
	Commonality of occurrence across the Region	1) If an occurrence category appears in multiple States in the Region, consider it potentially national
	Use of data/safety intelligence from accidents	1) Focus on pre-cursors and contributing factors 2) Use different sources, such as ICAO and Industry 3) Develop and monitor associated safety performance indicators

Identifying Operational safety risks



- Bird strikes highest incidents
- Windshear or Thunderstorm third highest category occurrence

2. Select Top Safety Risks

Organisational Challenges

- Impact of mitigating organizational challenge
- Priority Protocol Question
- Serious Safety Concern

Operational Safety Risks

Global /Regional HRCs

- Severity - fatalities
- Frequency of the occurrence
- Frequency of contributing factors

3. Presenting the Risk Picture

- **Organizational Challenges**
  - Establishment of Effective Safety Oversight System
  - Establishment and maintenance of effective SSP
- **Operational Safety Risks**
  - High Risk Category Occurrences
  - Other national safety risks
- **Emerging Issues**
  - drones, cybersecurity

Presenting organizational challenges

No.	Safety Deficiency	Justification
1.	Inadequate effective safety oversight	▪ Low level of Resolution of Safety Issues ▪ Low implementation of surveillance obligations ▪ Low level of USOAP CMA CAP Implementation ▪ Lack of standardised curriculum for ATOs ▪ Transition from the current AMEL CAT A, C, X, R categorization to B1, B2 categorization ▪ Lack of effective oversight of General Aviation (GA) operations ▪ Lack of effective oversight of unmanned aircraft system operations
2.	Difficulties in implementing an SSP	▪ Incomplete SSP self-assessment on OLF ▪ Assessment/Acceptance of Service provider's SMS is not comprehensive ▪ Non-operational national SSP coordination committee ▪ Lack of a comprehensive SDCPS
3.	Inadequate aircraft accident and incident investigation capabilities	▪ Inadequate funding of the Aircraft Accident and Incident Investigation Unit (AAIIU) ▪ Inadequate qualified accident investigators ▪ Inadequate tools and Equipment for AAIIU ▪ Lack of follow-up system for safety recommendations from aircraft accident investigations ▪ Low level of USOAP CMA CAP Implementation ▪ Inadequate aircraft accident and incident investigation organisation structure ▪ AIG audit area has lowest EI

Presenting operational safety risks

No.	National Operational Safety Risks	Justification
1.	Mid Air Collision (MAC)	▪ Global and regional HRC ▪ Increased reports on Loss of separation between aircraft in flight.
2.	Runway Excursion (RE)	▪ Global and regional HRC ▪ One (1) runway excursion per year over the five-year period (2019-2023)
3.	Runway Incursion (RI)	▪ Global and regional HRC ▪ Three (03) Incursions reported in the last five years
4.	Controlled Flight Into Terrain (CFIT)	▪ Global and regional HRC
5.	Loss of Control Inflight	▪ Global and regional HRC
6.	Birdstrike (BIRD)	▪ AFI-RASP safety risk ▪ Highest occurrences reported
7.	Wind shear	▪ Trend observed in wind shear related occurrences at EIA ▪ Discrepancy between reported and actual winds on approach and landing
8.	CNS/ATM	Increase in CNS/ATM occurrences reported e.g. ▪ Limited Surveillance coverage for low level flights ▪ Limited communication coverage for low level flights ▪ Lack of ATS interfacility data communication ▪ Frequent ATC Radio frequency interference
9.	Dust and Haze	▪ AFI-RASP safety risk
10.	Large Height Deviation	▪ AFI-RASP safety risk
11.	System component failures - Non-Power plant	▪ AFI-RASP safety risk ▪ Increase in occurrences

Presenting emerging safety risks

No.	Emerging safety risks	Justification
1	Safe operation of drones within aerodrome vicinity	▪ AFI-RASP emerging issue
2	Public Health crises like Ebola, Monkey pox	▪ AFI-RASP emerging issue ▪ High prevalence rate within the region
3	Cyber Security	▪ AFI-RASP emerging issue
4	Radio interference by 5G network	▪ AFI-RASP emerging issue ▪ Increased occurrence reports on radio frequency interference

3. Updating the Risk Profile

- Risk picture changes over time
  - As risks are mitigated
  - As new risks emerge
  - Due dynamic aviation environment
  - As significant changes are introduced
- To be reviewed regularly
- and an when the need arises
- Review follows same cycle

Stakeholder Collaboration

SSP Implementation Committee

- CAA – OPS/AGA/ANS/AMO/ATO
- AIG - AAIIU

Focus group

- CAA – all domains
- Industry Representatives
- AAIIU representative
- MoWT representative

Consultative meetings

- CAA
- Industry

Draft published on website for comments

Validation workshop – All Stakeholders

Challenges

- Non operational National SSP coordination Group
- SDCPS is not comprehensive
  - MOR and VOR system not consistent
  - No agreed taxonomy
  - Some data not captured – SDRs, surveillance data
- Procedures not properly documented
- Limited data analysis capacity

Areas of Improvement

- Operationalize the SSP Coordination Group
- Establish comprehensive SDCPS
- Document all the processes involved in creation of a risk picture
- Build data analysis capabilities in the State

Conclusion

- Recap the process: Safety Risk identification → Select top risks → Presentation of risk picture→ Continuously update the picture
- Start somewhere with whatever is available
- Learn by doing
  - Every attempt is a learning process
  - Every subsequent attempt is better than the previous