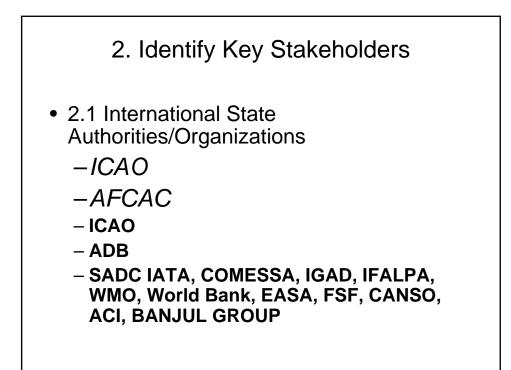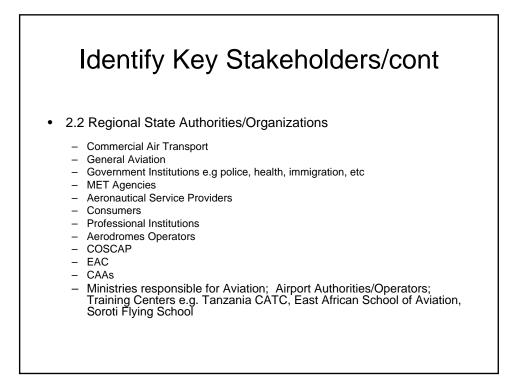# GASR Process

Workshop: Global Aviation Safety Roadmap Implementation
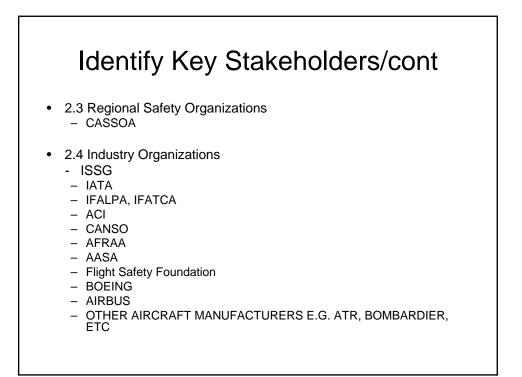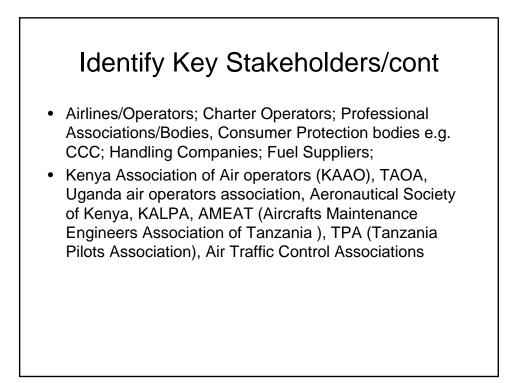
Guide for Workgroups

---

1. Select Region for Analysis

- 1.0 Regional Scope
  - Countries included in the region:
  - Kenya
  - Burundi
  - Tanzania
  - Uganda
  - Rwanda
  - INVITED STATES (ETHIOPIA & SEYCHELLES)

2. Identify Key Stakeholders

- 2.1 International State Authorities/Organizations
  - *ICAO*
  - *AFCAC*
    - **ICAO**
    - **ADB**
    - **SADC IATA, COMESSA, IGAD, IFALPA, WMO, World Bank, EASA, FSF, CANSO, ACI, BANJUL GROUP**

Identify Key Stakeholders/cont

- 2.2 Regional State Authorities/Organizations
  - Commercial Air Transport
  - General Aviation
  - Government Institutions e.g police, health, immigration, etc
  - MET Agencies
  - Aeronautical Service Providers
  - Consumers
  - Professional Institutions
  - Aerodromes Operators
  - COSCAP
  - EAC
  - CAAs
  - Ministries responsible for Aviation; Airport Authorities/Operators; Training Centers e.g. Tanzania CATC, East African School of Aviation, Soroti Flying School

Identify Key Stakeholders/cont

- 2.3 Regional Safety Organizations
  - CASSOA

- 2.4 Industry Organizations
  - ISSG
  - IATA
  - IFALPA, IFATCA
  - ACI
  - CANSO
  - AFRAA
  - AASA
  - Flight Safety Foundation
  - BOEING
  - AIRBUS
  - OTHER AIRCRAFT MANUFACTURERS E.G. ATR, BOMBARDIER, ETC

Identify Key Stakeholders/cont

- Airlines/Operators; Charter Operators; Professional Associations/Bodies, Consumer Protection bodies e.g. CCC; Handling Companies; Fuel Suppliers;
- Kenya Association of Air operators (KAAO), TAOA, Uganda air operators association, Aeronautical Society of Kenya, KALPA, AMEAT (Aircrafts Maintenance Engineers Association of Tanzania), TPA (Tanzania Pilots Association), Air Traffic Control Associations

3. Outline Strengths and Enablers

- 3.1 Regional Strengths
  Strong Legacy Carriers, Category 1 countries
  – Kenya Airways
  – Precisionair
  – Air Uganda
  – Rwanda Air Express
  – Air Burundi
  – Air Tanzania
  – Other Airiness in the neighboring states e.g. Ethiopian Airlines
  – General Aviation (Active in all five States)

- 3.2 International Enablers
  – *ICAO*
  – *AFCAC*
  – *AU*
  – *World Bank*
  – *EU*
  – *USA Government – Safe Skies for Africa Programme (DOT) and Technical Assistance (FAA)*
  – *ADB*
  – *AFRAA*
  – *BILATERAL AGREEMENTS AND DONOR AGENCIES*
  – *OTHER DONOR STATES*

3. Outline Strengths and Enablers/cont

- 3.3 Regional Enablers
  – *Regional Conventions, Treaties*
  – *EAC*
  – *SADCC*
  – *COMESA*
  – *IGAD*
  – *Regional Training Centers*
  – *YD*
  – *AU*
  – *ECAS*
  – *UNECA*

3. Outline Strengths and Enablers/cont

- 3.4 Industry Enablers
  - *IATA Partnership for Safety Initiative, Manufacturer's support*
  - *IATA*
  - *IOSA Certification*
  - *IFALPA*
  - *ACI*
  - *IFATCA*
  - *BOEING*
  - *AIRBUS*
  - *ATR*
  - *BOMBARDIER*
  - *OTHER AIRCRAFT MANUFACTURERS*
  - *Civil Aviation Training Schools in EA*

4. Identify Existing and Emerging Risks

- **4.1 States**
- 4.1.1. Regulatory Environment-Aviation Laws and Regulations
- The laws and Regulations have been harmonized within three East African Partner states. The process is underway to include Burundi and Rwanda.
  - 4.1.1.1 Existing Risks
    - *Political interference*
    - *Consumer expectations.*
    - *Public perception*
    - *State Bureaucracy*
    - *Incompatibility of government policies*
    - *Autonomy of CAAs and service providers (e.g. ANS) being part of the CAAs*
    - *Weak aviation laws and regulations and enforcement*
    - *Lack of sufficient financial resources*
    - *Inability to comply with implementation of the harmonised regulations*
    - *Non domestication of CAR by some member States*

  - 4.1.1.2 Emerging Risks
  - Different levels of adherence by stakeholders
  - Fear of loss of sovereignty
  - Labour movements
  - Insufficient Regulatory Training

4. Identify Existing and Emerging Risks/cont

- 4.1.2 Regulatory Oversight
  - 4.1.2.1 Existing Risks
    - *Limited availability of qualified personnel for safety oversight*
    - *Inadequate facilities to carry out oversight works*
    - *Insufficient regulatory oversight in certification of operations, airworthiness, meteorological services, personnel licensing, AMOs, ANS, aerodromes, etc*

  - 4.1.2.2 Emerging Risks
    - *Level 2 of maturity level: The capacity is still low (e.g. personnel, funding, resources, facilities)*
    - – Insufficient Regulatory Training
    - *Forced retirements and brain drain*

4. Identify Existing and Emerging Risks/cont

- 4.1.3 Unique States Considerations
  - 4.1.3.1 Existing Risks
  - - Higher altitude e.g. Rwanda, Mountains e.g. Kenya, Tanzania and bush aerodromes
  - ATC in the region unreliable in some areas
  - Aerodromes and airstrips that are not attended
  - Inadequate resources to carry out oversight functions
  - 4.1.3.2 Emerging Risks
  - Modern technologies
  - Tourism Growing while infrastructure remain the same
  - Insufficient efforts are put in place to provide the required resources

4. Identify Existing and Emerging Risks

- **4.2 Region**

- 4.2.1 Unique regional considerations
  - 4.2.1.1 Geography, weather, behavioral norms, language proficiency
  - States don't speak the same language
  - Operational demands – agri/bush flying, wildlife
  - Adverse weather and impact of climate change
  - Inadequate safety culture

- 4.2.2 Existing Risks
  - 4.2.2.1 Operating Environment:
    - Inadequate and obsolete Navaids, ATM/ATC facilities
    - unfenced Aerodromes
    - safety threat posed to flight safety by high mountains, thunder storms and fog weather and clear air turbulence, RT phraseology and impact on air traffic clearances, lack of trained staff for PBN implementation, insufficient Navaids and delayed calibration by ASECNA

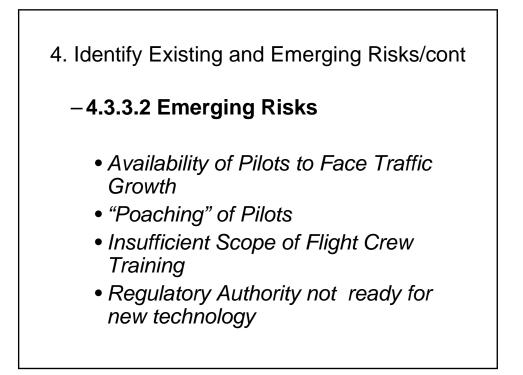# 4. Identify Existing and Emerging Risks/cont

- 4.2.2.2 Most Frequent Types of Events
  - *CFIT*
  - *Flying in bad weather*
  - *Unreported incidents*
- 4.2.3 Emerging Risks
  - 4.2.3.1 Availability of adequate qualified staff for accidents investigations and SAREX

4. Identify Existing and Emerging Risks

- **4.3 Industry**

- 4.3.1 Operator's Organization / Business Practices
  - 4.3.1.1 Existing Risks
    - *Implementation at different levels of SMS*
    - *Majority of fleets in East Africa is old*
    - *Safety Leadership & Management by Operators*
    - *Resistance to Change*
    - *Safety Culture*
    - *Major airlines in the region are playing the role of safety leadership and management, others air operators are gradually working to achieve the same goal*
    - *Multiplicity of aircraft types.*
  - 4.3.1.2 Emerging Risks
    - *Difficult in management of aircraft transfers (e.g. Maintenance Records)*
    - *Startups/LCCs Initial and Consistency in Compliance with AOC requirements.*
    - *Management of Aircraft Transfers*
    - *Flags of convenience*

4. Identify Existing and Emerging Risks/cont

- SIT and STAS have been developed to accommodate the increasing traffic movements in some states, skilled personnel not available in right quantity but efforts have been put in place for continuous training programme, lack of start-up capital to acquire modern aircrafts by some AC carriers in the region

- Management of aircraft transfer There is proper adherence to the conditions stipulated in the CAR for the documentation and issuance of C of A the transferred aircraft

4. Identify Existing and Emerging Risks/cont

- **4.3.2 Operator's Fleets / Equipment**
  - 4.3.2.1 Existing Risks
    - *Aging Aircraft*
    - *Accuracy of FMS and TAWS databases depends on training of the crew, accuracy of ground based equipment, calibration*
    - *A mixture of old and modern aircraft are being operated by the operators due inadequate resources*

  - **4.3.2.2 Emerging Risks**
    - *Maintenance of Aging Aircraft vv new fleet*
    - *Aging aircraft*

- **4.3.3 Flight Operations / Crew Training**
  - 4.3.3.1 Existing Risks
    - *Most HF/CRM principles and SOPs are being adhered to by major operators*
    - *Expensive crew training*
    - *Lack of capability to conduct ATPL training*

---

4. Identify Existing and Emerging Risks/cont

- **4.3.3.2 Emerging Risks**

  - *Availability of Pilots to Face Traffic Growth*
  - *"Poaching" of Pilots*
  - *Insufficient Scope of Flight Crew Training*
  - *Regulatory Authority not ready for new technology*

4. Identify Existing and Emerging Risks

- **4.3 Industry (Continued)**

- 4.3.4 Maintenance / Training
  - 4.3.4.1 Existing Risks
    - *Attrition of Mechanics/Technicians/Engineers*
    - *Quality of Maintenance Records in small companies is poor*
    - *Inadequate training facilities*
    - *Insufficient number of mechanics*
    - *Insufficient maintenance capability*
    - *The available quality maintenance records are yet to meet the required standards*
    - *Lack of succession planning*

  - 4.3.4.2 Emerging Risks
    - *Availability of Trained and Qualified Personnel to Face Growth*
    - *Inadequate qualified mechanics to meet demand of the industry*
    - *Little investment on maintenance facilities*
    - *The private sector is not encouraged to invest in AMOs*

4. Identify Existing and Emerging Risks/cont

- 4.3.5 Infrastructure / Airports, Navaids, ATC
  - 4.3.5.1 Existing Risks
    - *Airport Infrastructure is poor state and inadequate:*
    - *Poor Navaids / ATM / ATC Infrastructures*
    - *Most of the infrastructure /Airports, Navaids, ATC lack regular maintenance and upgrading*

  - 4.3.5.2 Emerging Risks
    - *Unable to cope up with the increasing traffic*
    - *Low priority of investing in air transport infrastructure*
    - *Growth and Fuel Costs / Inadequate navaids & ATC procedures*

4. Identify Existing and Emerging Risks/cont

- 4.3.6 Unique Industry Considerations
  - 4.3.6.1 Existing Risks
  - Civil/military coordination
  - Third party infrastructure
  - Inter-modal issues
  - Competing national priorities

  - 4.3.6.2 Emerging Risks
  - Increased fuel costs
  - Climate changes
  - Epidemics

Focus Area 2 –
Best Practice Implementation

Best Practices	Metrics	Implementation
BP 2a-1 – **State utilizes/implements the 8 critical elements of the safety oversight system.** a. Primary aviation legislation b. Specific operating regulations c. CAA structure and safety oversight functions d. Technical guidance e. Qualified technical personnel f. Licensing and certification obligations g. Continued surveillance obligations h. Resolution of safety issues	a. State implements in accordance with ICAO Doc 9734 Part A Chapter 3	☐ Complete ☐ Somewhat × ☐ Little/None ☐ Not Applicable Discussion: There are some deficiency on item (e) to (h) The elements are being addressed to different degrees and the EAC has plans and arrangements to close all deficiencies.

Focus Area 2 –
Best Practice Implementation

Best Practices	Metrics	Implementation
BP 2a-2 – **State provides a mechanism for sufficient funding of safety oversight activities.**	a. USOAP ORG 2.051	☐ Complete ☐ Somewhat × ☐ Little/None ☐ Not Applicable Discussion: Funds generated by Regulatory bodies are insufficient to meet safety oversight activities.

Focus Area 2 –
Best Practice Implementation

Best Practices	Metrics	Implementation
BP 2a-3 – **State applies the principles of risk management to its safety related activities.** a. Hazards and risks are assessed and prioritized on a regular basis. b. Risk mitigation strategies are developed and implemented. c. Results are assessed and corrective action taken as needed.	a. ICAO Doc. 9859 Para. 3.3 b. Attendance at ICAO SMS Training Course	☐ Complete ☐ Somewhat ☐ Little/None × ☐ Not Applicable Discussion: The monitoring and reporting system on safety related activities need to be strengthened. Initial training on SMS is just being done for the CAA staff

Focus Area 2 –
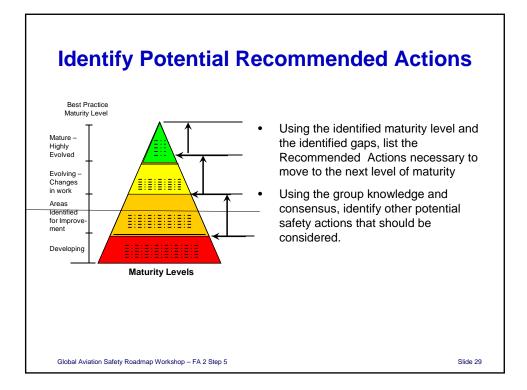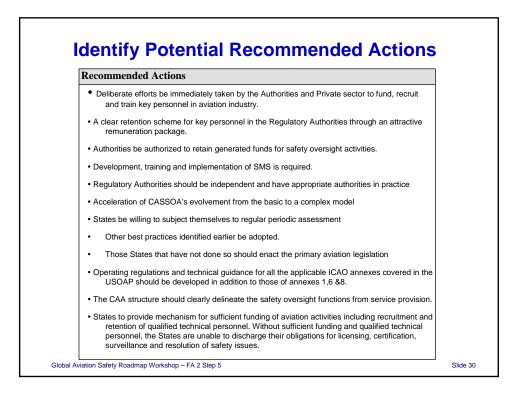# Best Practice Implementation

Best Practices	Metrics	Implementation
BP 2a-4 – **The Regulatory Authority acts independently where safety issues are implicated in its actions.** a. The individuals responsible for such action must be given appropriate authority to exercise their responsibilities. b. Accountability for the exercise of regulatory authority must be in accordance with the principles of a "just culture" (see Objective 3a for a discussion of "just culture").	a. USOAP LEG 1.109; USOAP LEG 1.111 b. Annex 13 Attachment E; i.e. USOAP AIG 6.505	☐ Complete ☐ Somewhat × ☐ Little/None ☐ Not Applicable Discussion: the CAAs has the appropriate authority but the problem is to oversight the implementation. We need to cultivate the just culture i.e. have in place system of non punitive reporting of safety issues (Regulators, Operators and Industry as a whole) 'Just culture' and SMS is still in its infancy. Enlightenment of the top policy makers/managers is necessary

Focus Area 2 –
Best Practice Implementation

Best Practices	Metrics	Implementation
BP 2a-5 – **Regional oversight organizations or equivalent means are in place to perform those functions which cannot be performed by the State acting on its own.** a. States may also decide to use Regional oversight organization as a matter of convenience (e.g. Agencia Centroamericana de Seguridad Aeronáutica (ACSA)). b. Outsourcing the technical and administrative tasks associated with oversight to another Regulatory Authority or a private contractor is an example of a means equivalent to a regional oversight organization.	a. USOAP ORG 2.017	☐ Complete ☐ Somewhat ☐ Little/None × ☐ Not Applicable Discussion: CASSOA is in the formative stage

Focus Area 2 –
Best Practice Implementation

Best Practices	Metrics	Implementation
BP 2a-6 – __Periodic assessments are conducted.__	a. FSIX - ICAO Doc. 9735 Para 6.1.1e b. Structures exist and are utilized to facilitate the sharing of the results of periodic assessments	☐ Complete ☐ Somewhat × ☐ Little/None ☐ Not Applicable Discussion: 1. External periodic assessment e.g. ICAO are done. Air operators are periodically audited. There is no structure to facilitate sharing of assessments information

Focus Area 2 –
Other Best Practices

Best Practices	Metrics	Implementation
Other Best Practices o There should be designation of duties to officers outside Regulatory Authorities o Make use of outside Regulatory Authorities to perform oversight duties O There should be joint strategies in sourcing funds for oversight activities particularly on training personnel O There should be a commitment to implement all regional plans Regular consultation meetings with stakeholders		☐ Complete ☐ Somewhat ☐ Little/None × ☐ Not Applicable Discussion: it is suggested that the four added best practices be considered seriously in order to improve the regulatory oversight in the region.

Identify Potential Recommended Actions

Best Practice
Maturity Level

Mature –
Highly
Evolved

Evolving –
Changes
in work

Areas
Identified
for Improve-
ment

Developing

Maturity Levels

- Using the identified maturity level and the identified gaps, list the Recommended Actions necessary to move to the next level of maturity

- Using the group knowledge and consensus, identify other potential safety actions that should be considered.

Identify Potential Recommended Actions

Recommended Actions
• Deliberate efforts be immediately taken by the Authorities and Private sector to fund, recruit and train key personnel in aviation industry.
• A clear retention scheme for key personnel in the Regulatory Authorities through an attractive remuneration package.
• Authorities be authorized to retain generated funds for safety oversight activities.
• Development, training and implementation of SMS is required.
• Regulatory Authorities should be independent and have appropriate authorities in practice
• Acceleration of CASSOA's evolvement from the basic to a complex model
• States be willing to subject themselves to regular periodic assessment
• Other best practices identified earlier be adopted.
• Those States that have not done so should enact the primary aviation legislation
• Operating regulations and technical guidance for all the applicable ICAO annexes covered in the USOAP should be developed in addition to those of annexes 1,6 &8.
• The CAA structure should clearly delineate the safety oversight functions from service provision.
• States to provide mechanism for sufficient funding of aviation activities including recruitment and retention of qualified technical personnel. Without sufficient funding and qualified technical personnel, the States are unable to discharge their obligations for licensing, certification, surveillance and resolution of safety issues.

Identify Potential Recommended Actions

Recommended Actions
• States should enlighten the government and industry policy makers/ managers on 'just culture' • States should post assessment reports on the CASSOA website to facilitate sharing. • Periodic and regular stakeholders meeting should be held in the region. • Sharing of aviation experts within the region • The State should budget for adequate surveillance • Urgent revival of East African Civil Aviation Training Academy in Soroti for the training of pilots, Aircraft maintenance engineers at affordable cost

Prioritize the Recommended Actions Using the Impact-Changeability Level as a Guide

Recommended Action	Impact	Change-ability	IC Level	Selected Priority
1. Deliberate efforts be immediately taken by the Authorities and Private sector to fund, recruit and train key personnel in aviation industry.	3	2	P2	2
2. A clear retention scheme for key personnel in the Regulatory Authorities through an attractive remuneration package.	3	3	P1	1
3. Authorities be authorized to retain generated funds for safety oversight activities.	3	3	P1	1
4. Training on SMS is required	3	2	P2	2
5. Regulatory Authorities should be independent and have appropriate authorities in practice	3	2	P2	2
6. Acceleration of CASSOA's evolvement from the basic to a complex model	3	1	P3	3
7. States be willing to subject themselves to regular periodic assessment	2	3	P4	4
8. Other best practices identified earlier be adopted.	2	2	P5	5

Prioritize the Recommended Actions Using the Impact-Changeability Level as a Guide

Recommended Action	Impact	Change-ability	IC Level	Selected Priority
9. Those States that have not done so should enact the primary aviation legislation	Considerable	Difficult	P3	6
10. Operating regulations and technical guidance for all the applicable ICAO annexes covered in the USOAP should be developed in addition to those of annexes 1,6 &8.	Considerable	Little	P1	1
11. Thereafter, States should develop and implement SMS requirements.	Considerable	Difficult	P3	8
12. The CAA structure should clearly delineate the safety oversight functions from service provision.	Moderate	Moderate	P5	9

Prioritize the Recommended Actions Using the Impact-Changeability Level as a Guide

Recommended Action	Impact	Change-ability	IC Level	Selected Priority
13. States to provide mechanism for sufficient funding of aviation activities including recruitment and retention of qualified technical personnel.	Considerable	Difficult	P3	7
14. States should enlighten the government and industry policy makers/ managers on SMS and 'just culture'	Considerable	Moderate	P2	4

Prioritize the Recommended Actions Using the Impact-Changeability Level as a Guide

Recommended Action	Impact	Change-ability	IC Level	Selected Priority
15. States should post assessment reports on the CASSOA website to facilitate sharing.	Considerable	Moderate	P2	5
16. Periodic and regular stakeholders meeting should be held in the region.	Considerable	Little	P1	3

18