Nepal Aviation Safety Plan (2018-2022)

Civil Aviation Authority of Nepal

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Executive Summary

Nepal Aviation Safety Plan (NASP), 2018-2022 has been developed by the Civil Aviation Authority of Nepal in congruence with the ICAO Global Aviation Safety Plan (GASP), Doc. 10004.

The purpose of NASP is to continually enhance aviation safety performance by reducing fatalities, and the risk of fatalities, through development of a harmonized aviation safety strategy and its implementation. This first edition of NASP incorporates the plans for enhancing aviation safety in Nepal for a period of five years (2018-2022). It includes the goals for CAAN to improve its effective safety oversight capabilities by strengthening the weak elements, CE4 (qualified technical personnel) and CE 8 (resolution of safety issues) as identified by ICAO audits. It aims at improving in the areas of Organization (ORG), Aircraft Accident and Incident Investigation (AIG) and Air Navigation Services (ANS) which have been identified as safety deficient areas. It also includes the plan to gain pace in the process of implementation of State safety programme (SSP). This plan recognizes the importance of safety risk analysis for the identification of hazards and mitigation of operational safety risks. Its mission is to ensure continuous enhancement of aviation safety by adopting a collaborative approach with all stakeholders. This is supported by the following goals:

- **Goal 1** — Achieve a continuous reduction of operational safety risk.
- **Goal 2** — Strengthen safety oversight capabilities of Nepal
- **Goal 3** — Implement State Safety Programme

To achieve the NASP goals, there is need of sufficient resources and qualified technical personnel for the effective implementation of the State's safety enhancement initiatives. In order to mitigate the risk of fatalities, the High Risk Categories (HRCs) of occurrences should be addressed. The selection of types of occurrences which are deemed as HRCs is based on causes of fatal accidents and the number of accidents and incidents so far. The following HRCs, in the given order, have been identified for the 2018-2022 edition of the NASP: controlled flight into terrain; loss of control in-flight; mid-air collision; runway incursion; runway excursion and wildlife strike. The NASP is believed to present the strategic direction for the management of aviation safety at the national level.

1. Introduction

1.1 Overview

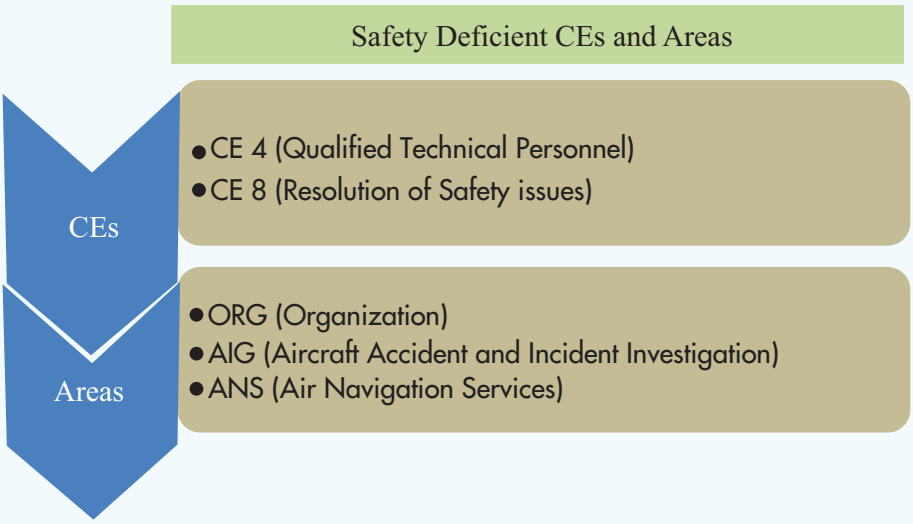
ICAO Assembly Resolution A39-12 on ICAO global planning for safety and air navigation recognizes the importance of effective implementation of national aviation safety plans. It resolves that States should develop and implement national aviation safety plans, in line with the goals of the GASP. As Nepal has implemented State Safety Programme (SSP), the plan has been linked to this programme.

Nepal Aviation Safety Plan (NASP) 2018-2022 is a master guiding document for aviation safety management in Nepal. NASP incorporates the existing organizational and operational safety deficiencies and future resolving measures. This plan was developed in consultation with airline operators and other aviation stakeholders aligning with Global Aviation Safety Plan (GASP) 2020-2022.

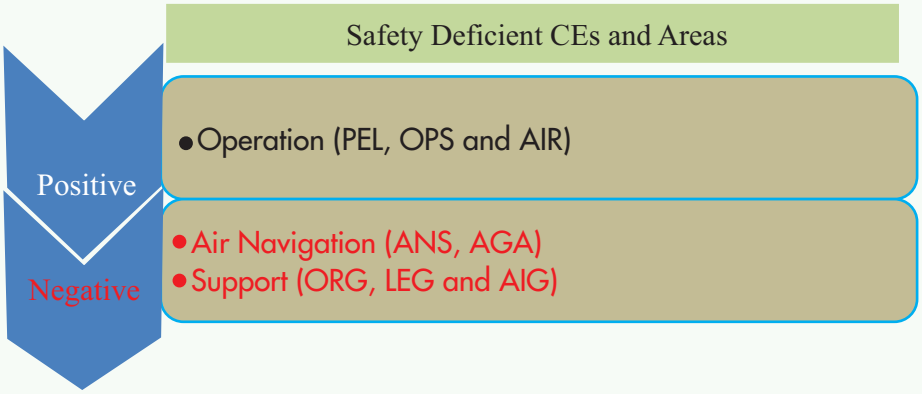
1.2 Responsible authority for development, implementation and monitoring of Plan

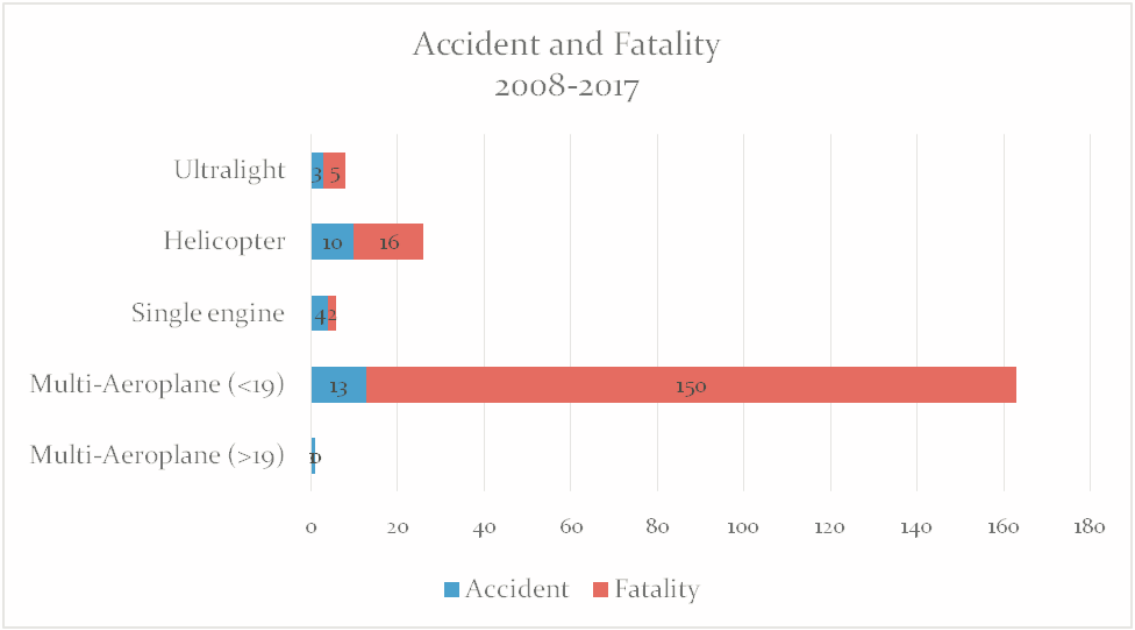
Civil Aviation Authority of Nepal (CAAN) is responsible for development, implementation and monitoring of the plan in line with Global Aviation Safety Plan (GASP) and in collaboration with aviation Industries and other stakeholders.

1.3 National safety issues, goals and targets.



The USOAP audits conducted in different time periods (2009, 2013-ICVM and 2017-ICVM) identified that Critical Element 4, (CE 4, qualified Technical Personnel) and Critical Element 8 (CE 8, Resolution of Safety issues) as weak elements and the Civil Aviation Organization (ORG), Aircraft Accident and Incident Investigation (AIG) and Air Navigation Services (ANS) areas have been identified as safety deficient areas. The identified safety deficient elements and areas have scored less than GASP target EI index of 60%.



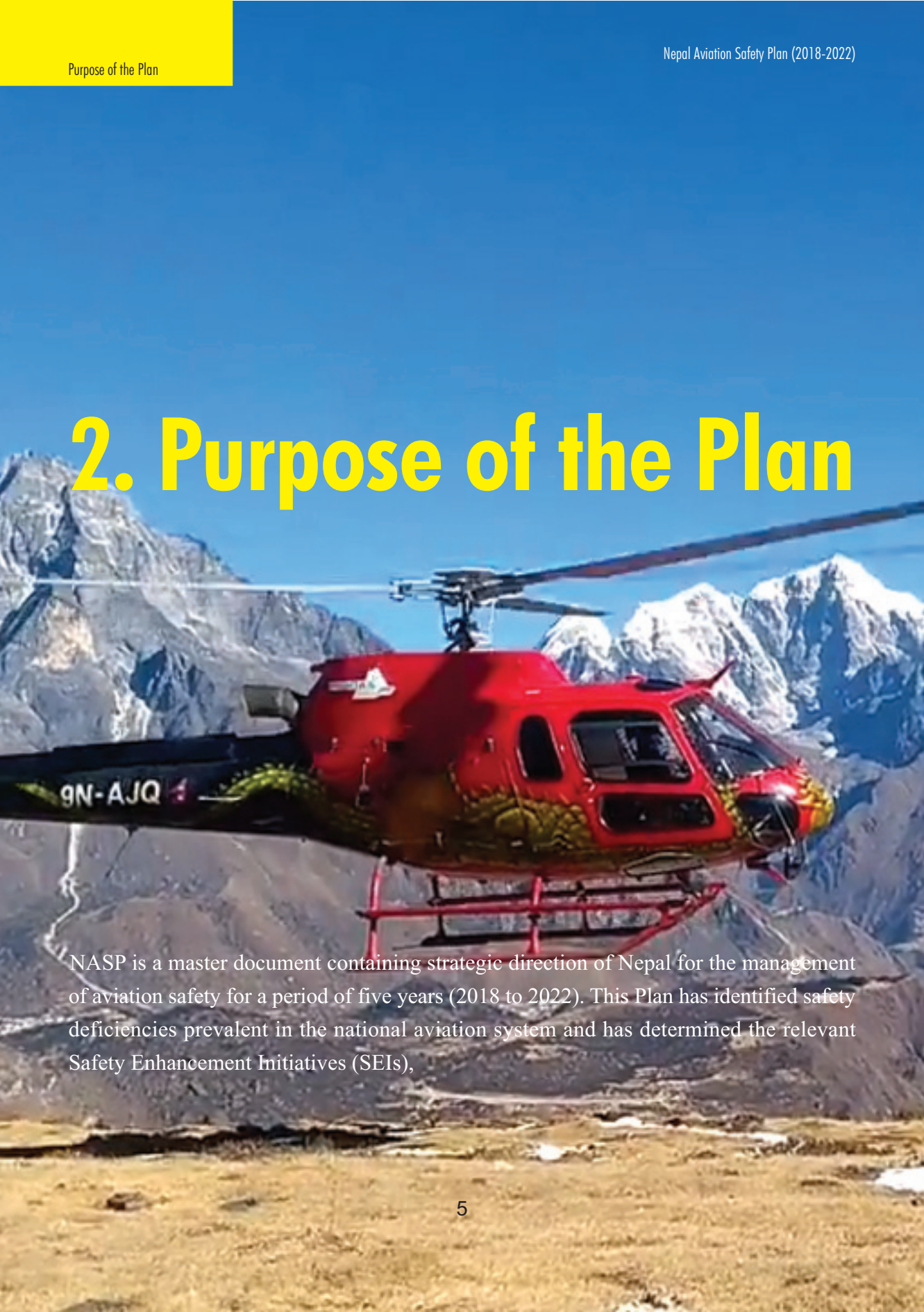


The overall Effective Implementation (EI) index of Nepal is 66.08 which is above the global benchmark and APAC region average rate. The safety oversight margin calculated by ICAO for Nepal is positive for the functional category of Operation (PEL, OPS and AIR) and negative for functional category of Air Navigation (ANS and AGA) and Support (ORG, LEG and AIG). Most of the airline operators have already implemented SMS whereas certified aerodrome operators and ANSP are in the initial phase of implementation. CAAN has entered the first phase of implementing SSP. Nepal has witnessed 9 fatal accidents of aircraft with 19 or less seat capacity resulting in 150 fatalities in the last 10 years (2008 to 2017). NASP has set three goals related to Organizations and Operational areas with aligned targets and performance indicators as prescribed by GASP 2020-2022.

1.4 Operational Context

There are 50 airports in Nepal including one international airport. Airports in Nepal have been divided into three categories namely Category A, Category B and Category C on the basis of operational complexity. Cat. A airports are relatively easier than B and C with regards to various aspects of flight operation whereas Cat. C airports are STOL air strips and located in high altitude terrain and gorges rendering it difficult to install navigation aid. The unpredictable weather pattern together with steep upslope runway strip has added to the adversities. Most of the domestic airports are situated in narrow valleys or top of hills with elevation ranging from 8000 feet to 10000 feet AMSL where small turbo-prop aircraft like DHC-6 300/400 and D228 are operated. The only one international airport is overwhelmingly congested and significant traffic delay is observed almost every time. Further, airspace in Nepal has been classified into Class C and Class G with only VFR flights operating in the latter.

2. Purpose of the Plan

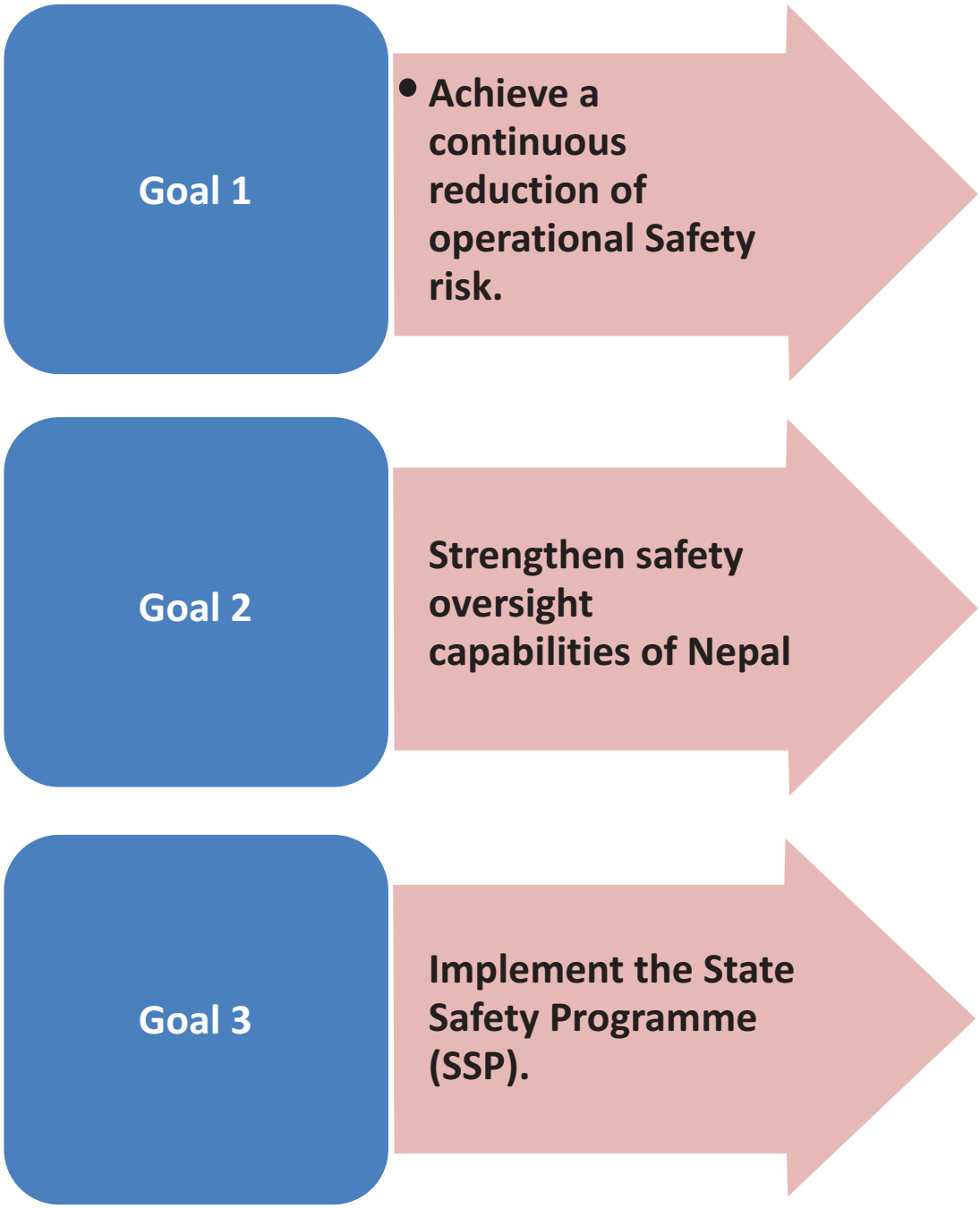


NASP is a master document containing strategic direction of Nepal for the management of aviation safety for a period of five years (2018 to 2022). This Plan has identified safety deficiencies prevalent in the national aviation system and has determined the relevant Safety Enhancement Initiatives (SEIs),

3. Strategic Approach

Strategic Approach of Plan

NASP has set the following goals for the national aviation safety management.



3.1 Goals, Targets and Indicators of Plan

Goal	Target(s)	Indictors
Goal 1: Achieve a continuous reduction of operational safety risks	Maintain a decreasing trend of accident rate	▪ Number of accidents ▪ Rate of accident per 100000 departures. ▪ Number of fatal accidents ▪ Rate of fatal accident per 100000 departures. ▪ Number of fatalities per passengers carried (fatality rate) ▪ Percentage of occurrences related to high risk categories (HRCs)
Goal 2: Strengthen safety oversight capabilities of Nepal	2.1 Nepal to improve its rate of effective implementation (EI) of the critical elements (CEs) of the safety oversight system (with focus on priority PQs) to reach 75%by 2022. 2.2 By 2022, Nepal to reach a positive safety oversight margin in all categories.	▪ Overall EI score of Nepal ▪ % of priority PQs implemented by Nepal ▪ % of required CAPs submitted (using OLF). ▪ % of completed CAP (using OLF) ▪ Timely filing of differences • positive safety oversight margin in all categories • % of positive safety oversight margin in all categories

Goal 3: Implement effective State Safety Programmes (SSP)	3.1 By 2022, Nepal to increase the implementation of SSP foundation from 76.15% to 100%.	• Implementation of the foundation of SSP • % of each subject area implemented • % of satisfactory PQs related to SSP foundation • % of required CAPs related to the PQs of SSP foundation submitted (using OLF) • % of required CAPs related to the PQs of SSP foundation completed (using OLF)

3.2 Safety Enhancement Initiatives and actions for Critical Elements

Safety Enhancement Initiatives (SEIs) identified to address the safety deficient critical elements (CE 4 and CE 8) and to improve the EI of CE 3, CE 5, CE 7 and CE 8 for achieving the second Goal of NASP are as follows:

SEIs identified to address the safety deficient CEs and Areas				
SEI- 1 Development of comprehensive regulatory oversight framework, (GASP, SEI -2)	SEI- 2 Establishment of an independent accident and incident investigation authority, consistent with Annex 13 (GASP, SEI-3)	SEI- 3 Qualified Technical personnel to support effective safety oversight (GASP, SEI-5).	SEI- 4 Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner (GASP, SEI-6).	SEI- 5 Continued implementation of and compliance with ICAO SARPs at the national level (GASP, SEI-9)

The identified actions associated to the SEIs are as follows:

i. Development of comprehensive regulatory oversight framework, (GASP, SEI -2)

Actions:

- a — Develop an effective system to promulgate technical guidance and tools, and provide safety –critical information needed for technical personnel to perform their safety oversight functions effectively by 2020 (SEI-2B).
- b — Establish an effective system to attract, recruit, train and retain qualified and sufficient technical personnel to support regulatory oversight by 2019 (SEI-2C).

ii. Establishment of an independent accident and incident investigation authority, consistent with Annex 13 (GASP, SEI-3)

Actions:

- a — Develop an effective system to promulgate technical guidance and tools, and provide safety –critical information needed for technical personnel to perform their safety oversight functions effectively by 2020 (SEI-2B).
- b — Establish an effective system to attract, recruit, train and retain qualified and sufficient technical personnel to support regulatory oversight by 2019 (SEI-2C).
- c — Establish an effective system to attract, recruit, train and retain qualified and sufficient technical personnel to support accident and incident investigations by2019 (SEI -3C).

iii. Qualified Technical personnel to support effective safety oversight (GASP, SEI-5).

Actions:

a. Establish an effective system to identify and track qualifications and training for existing technical personnel by 2019 (SEI -5A).

b. Identify the gaps in qualified technical personnel and training requirements necessary to implement the oversight mandate by 2020 (SEI -5B).

c. Establish a compensation scheme for the attraction and retention of qualified technical personnel by 2019 (SEI- 5C).

d. Establish human resource plans to support hiring and retention of the appropriate number of qualified technical personnel required by 2020 (SEI-5E).

e. Make use of RSOOs, RAIOs, or equivalent means to secure qualified technical personnel for performing those functions which cannot be performed by Nepal alone. (SEI- 5D).

f. Implement training policies and programmes for technical personnel and verify that the type and frequency of training successfully completed are sufficient to acquire/maintain the required qualifications and level of competence by 2020 (SEI-5F).

g. Develop a process for assessing changing needs for qualified technical personnel requirements and develop procedures to update hiring, retention and training of personnel needs, commensurate with organization complexity and resource strength by 2021 (SEI-5G).

iv. Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner (GASP, SEI- 6).

Actions:

a. Based on the identified safety deficiencies, establish a mechanism to identify collaborators and develop an action plan for the resolution of those deficiencies by 2021. (SEI-6A).

b. Establish a process via RASG and/or RSOO for a mentoring/collaboration system, including providing State/industry assistance as well as sharing of best practices and internal follow-up actions by 2020. (SEI-6E).

c. Collaborate with RASG and/or RSOO, other States, ICAO, industry joint programmes and/or technical school partnerships to attract, recruit and train qualified and sufficient technical personnel and develop a strategy for their retention by 2020. (SEI- 6F).

v. Continued implementation of and compliance with ICAO SARPs at the national level (GASP, SEI-9)

Actions:

a. Implement effective regulatory oversight and enforcement processes by 2019 (SEI- 9B).

b. Establish a system to resolve safety concerns identified via accident and incident investigations, surveillance activities, safety reports and other means by 2021(SEI- 9C).

3.3. Safety Enhancement Initiatives and Actions for SSP implementation:

Nepal has planned to implement the following SEIs and actions aligned with GASP for resolution of safety deficiencies identified in the area of SSP implementation to achieve the Goal 3 set in the plan

SEI-1	Start of SSP implementation at the national level (GASP, SEI - 13).
SEI-2	Strategic allocation of resources to start SSP implementation (GASP, SEI-14)
SEI-3	Strategic collaboration with key aviation stakeholders to start SSP implementation (GASP, SEI-15).
SEI-4	Strategic Collaboration with key stakeholders to complete SSP implementation (GASP, SEI-16).
SEI-5	Establishment of safety risk management at the national level (step 1) (GASP, SEI-17).
SEI-6	Establishment of safety risk management at the national level (phase 2) (GASP, SEI-18).
SEI-7	Acquisition of resources to increase the proactive use of risk modeling capabilities (GASP, SEI-19).
SEI-8	Strategic collaboration with key aviation stakeholders to support the proactive use of risk modeling capabilities (GASP, SEI-20).
SEI-9	Advancement of safety risk management at the national level (GASP, SEI-21).

Identified actions associated with the SEIs are as follows:

i. Start of SSP implementation at the national level (SEI -13).

a.	Conduct initial SSP gap analysis (checklist) then after the detailed SSP self-assessment by 2018 (SEI-13B.)
b.	Develop an implementation plan for the SSP by 2018 (SEI-13D).
c.	Issue SMS regulations for service providers and verify SMS implementation through SMS audit by 2018(SEI-13E).
d.	Identify and share safety management best practices (SEI-13F).

ii. Strategic allocation of resources to start SSP implementation (GASP, SEI-14)

a.	Establish a process for planning and allocation of resources to enable SSP implementation and identify areas where resources are needed (SEI-14A)
b.	Obtain resources from national and appropriate authorities' leadership and stakeholders within the State to support SSP implementation (SEI-14B).
c.	Work with the ICAO Regional Office to make use of available means (e.g. Technical cooperation Bureau) to acquire assistance needed for SSP implementation (SEI-14C).
d.	Work with RSOO, other States and other organizations, as appropriate to train qualified technical personnel to fulfill their duties and responsibilities regarding SSP implementation (SEI-14D).

iii. Strategic collaboration with key aviation stakeholders to start SSP implementation (GASP, SEI-15).

a.	Identify areas where collaboration/support is needed as part of the SSP implementation plan (SEI-15A).
b.	Identify relevant collaborators from the key aviation stakeholders, including other States that are implementing or have implemented an SSP (SEI-15B).
c.	Develop an action plan to address the elements identified as missing or deficient during the SSP Gap analysis (SEI-15C).
d.	Establish a process via RASGs and/or RSOO for a mentoring system, including providing assistance to States/industry, as well as sharing of best practices to support SSP implementation (SEI-15D).
e.	Develop a process to provide training on SSP to relevant staff, in collaboration with RSOO and/or other States (e.g. initial, recurrent and advanced) (SEI-15E).
f.	Establish and implement a process for sharing technical guidance, tools and safety-critical information related to SSP (e.g. advisory circulars, staff instructions, safety performance indicators), in collaboration with other States, RASG, RSOO, ICAO and/or other stakeholders (SEI-15F).

iv. Strategic Collaboration with key stakeholders to complete SSP implementation (GASP, SEI-16).

a.	Work with collaborators (identified in SEI – 15) to execute the action plan for implementations (SEI-16A).
b.	Obtain resources from national and appropriate authorities' leadership and stakeholders within the State to support SSP implementation (SEI-14B)
c.	Establish a system for the continuous improvement of the SSP, in collaboration with all relevant stakeholders (SEI-16C).

v. Establishment of safety risk management at the national level (phase 1) (GASP, SEI-17).

a.	Establish a legal framework related to the protection of safety data, safety information and other related sources (SEI-17A).
b.	Establish a State mandatory occurrence reporting system (SEI-17B).
c.	Develop a safety database for monitoring system safety issues and hazards, in line with the principles of Doc 9859 (SEI-17C).
d.	Establish and maintain a process to identify hazards from collected safety data (SEI-17D)
e.	Establish and utilize a process to ensure the assessment of safety risks associated with identified hazards (SEI-17E)
f.	Establish a State confidential voluntary safety reporting system providing data to the safety database (SEI-17F).

vi. Establishment of safety risk management at the national level (phase 2) (GASP, SEI-18).

a.	Establish
a.	Develop safety performance indicators using the established safety risk management process by 2022 (SEI-18A)
b.	Develop safety performance measurement methodologies, aligned with the regional safety metrics, using the established safety risk management process by 2022 (SEI-18B).
c.	Establish the acceptable level of safety performance to be achieved through the SSP by 2022 (SEI-18C).
d.	Promote safety awareness and two-way communication, sharing and exchange of safety-relevant information within aviation organizations of Nepal and encourage sharing of safety information with industry within Nepal. (SEI-18F).
e.	Contribute information on safety risks and SSP safety performance indicators to the RASG.

vii. Acquisition of resources to increase the proactive use of risk modeling capabilities (GASP, SEI-19).

a.	Identify resources needed to support safety intelligence collection and processing, advanced data analysis, risk modeling and information sharing capabilities by 2022 (SEI, 19A).
b.	Attract, recruit, train and retain qualified technical personnel to specialize in risk modeling (SEI-19B).
c.	Ensure that civil Aviation Safety Inspector workforce is trained to perform safety oversight of service providers that have implemented SMS (SEI-19C).

viii. Strategic collaboration with key aviation stakeholders to support the proactive use of risk modeling capabilities (GASP, SEI-20).

a.	Identify areas where collaboration/support is needed to ensure that stakeholders understand and implement safety culture concepts to fully embrace an open, just culture and non-punitive safety reporting (SEI- 20A).
b.	Establish a process via RASG and/or RSOO (or other regional bodies) for a mentoring system, including providing assistance to States/industry, as well as the sharing of best practices to support safety culture development and the proactive use of risk modeling (SEI-20B).
c.	Foster and participate in public-private partnerships similar to the commercial/general aviation safety team concept to identify and implement system safety enhancements (SEI-20C).
d.	Collaborate with national and industry stakeholders to establish a mechanism for regular sharing and exchange of safety information, analyses, safety risk discoveries/lessons learned and best practices with a confidential and non-punitive environment (SEI-20D).

ix. Advancement of safety risk management at the national level (GASP, SEI-21).

a.	Establish data sharing connectivity and integration among Nepalese aviation safety database, including the mandatory occurrences reporting system, voluntary safety reporting system, safety audit reports and aviation system statistics (traffic counts, weather information, EI scores, etc) (SEI- 21A).
b.	Develop risk modeling capabilities to support monitoring system safety issues and accident/incident prevention (SEI-21B).
c.	Encourage information sharing with industry (SEI-21C).

4. Operational Safety Risk and Initiatives

On the basis of analysis of mandatory and voluntary reports of past 2 years and Accident and Incident Investigation reports of past 10 years, Operational safety risks in Nepalese context have been identified as Controlled Flight into Terrain (CFIT), Loss of Control in Flight (LOC-I), Mid Air Collision (MAC), Runway Incursion (RI), Runway Excursion RE) and Wildlife Strike (WS). The Safety enhancement initiatives to be adopted for the purpose of addressing these operational risks are as follows:

4.1 Controlled Flight into Terrain (CFIT)

Nepal shall implement the following actions to mitigate contributing factors to the risk of CFIT accident and incident (GASP, SEI):

a. Issue Safety Advisory (SA) to increase adherence toTAWS warning procedures.

b. Ensure that ATC surveillance system is improved for the provision of Minimum Safety Altitude Warning (MSAW) system by 2019.

c. Ensure that the timeliness of updates and accuracy of Electronic Terrain and Obstacle Data (ETOD) by 2019

d. Promote the use of GPS-derived position data to feed TAWS by 2019.

4.2 Loss of Control-In Flight (LOC-I)

Nepal shall implement the following actions to mitigate contributing factors to the risk of LOC-I accidents and incidents (GASP, SEI):

a. Require upset prevention and recovery training in all full flight simulator type conversion and recurrent training programmes by 2019.

b. Ensure that ATC surveillance system is improved for the provision of Minimum Safety Altitude Warning (MSAW) system by 2019.

c. Ensure that the pilot trainings extensively incorporate human factors such as distraction, complacency, situational awareness etc by 2018.

d. Evaluate the existing SOPs to insure the effective flight management during adverse weather and recovery of unusual aircraft attitudes by 2018.

4.3 Mid Air Collision (MAC)

Nepal shall implement the following actions to mitigate contributing factors to the risk of MAC accidents and incidents (GASP, SEI):

a. Establish guidance and regulations to ensure all type of aircraft operating within Nepalese airspace are equipped with airborne collision avoidance system (ACAS), in accordance with Annex 6 by 2022.

b. Mandate the airline operators to adhere to ACAS warning

c. Promote the improvement of air traffic control (ATC) systems, procedures and tools to enhance conflict management.

d. Ensure that the ATC system is properly equipped of and is in effective implementation of short term conflict alert (STCA) by 2022.

4.4 Runway Incursion (RI)

Nepal shall implement the following actions to mitigate contributing factors to the risk of RI accidents and incidents (GASP, SEI):

a. Ensure establishment and implementation of Nepal Runway Safety Programme (NRSP) and Runway Safety Teams (RST) by 2019.

b. Develop policy, procedures and trainings that support situational awareness for controllers, pilots, airside-vehicle drivers and other airport users by 2019.

c. Ensure effective use of suitable technologies to assist the improvement of situation awareness, such as improved resolution airport moving maps (AMM), electronic flight bags (EFBs), enhanced vision systems (EVS) and head-up displays (HUD), advanced-surface movement guidance and control systems (A-SMGCS), stop bars and runway incursion warning systems (ARIWS) by 2022.

d. Certify Regional hub aerodromes in accordance with ICAO Annex 14, Vol. I as well as Doc 9981, PANS-Aerodrome by 2022.

e Ensure the identification and publication in the aeronautical information publication (AIP) of hot spots at aerodromes.

f Conduct the risk assessment of identified hot spots of aerodrome and develop and execute suitable strategies to remove hazards or mitigate risks associated with those hot spots by 2019.

4.5 Runway Excursion (RE)

Nepal shall implement the following actions to mitigate contributing factors to the risk of RE accidents and incidents (GASP, SEI):

a. Certify International and Regional Hub aerodromes in accordance with ICAO Annex 14, Vol I, Doc 9981 and PANS-Aerodrome by 2022.

b. Promote the establishment of policy and training on rejected landings, go-around, crosswind and tailwind landings (up to the maximum manufacturer-demonstrated winds)

c. Encourage equipage of runway overrun awareness and alerting systems on aircraft by 2022.

d. Ensure effective and timely reporting of meteorological and aerodrome conditions (e.g. runway surface condition in accordance to the ICAO global reporting format in Annex 14 Vol I, braking action and revised declared distances) by 2020.

e Ensure the installation of arresting systems if runway end safety area (RESA) requirements cannot be met by 2022.

f Ensure that procedures for the systematic reduction of the rate of unstablized approaches to runways are developed and implemented by 2022.

4.6 Wildlife Strike (WS):

Nepal shall implement the following actions to mitigate contributing factors to the risk of accident and incident caused by wildlife Strike at the airport:

a. Promote collecting, reporting, recording and analysis of data on Wildlife strikes and observed wildlife and formulate the strategies for Wildlife strike management

b. Ensure the better management of vegetation and land use at the airports.

c. Ensure the implementation of effective wildlife distracting mechanisms at the airports by 2019.

d. Ensure the implementation of Off-airport bird management activities in collaboration with local communities and other government agencies through National Airport Bird Control and Reduction Committee.

e Encourage to use environment friendly chemical bird repellent technique at airports apart from the existing audio and visual repellent techniques.

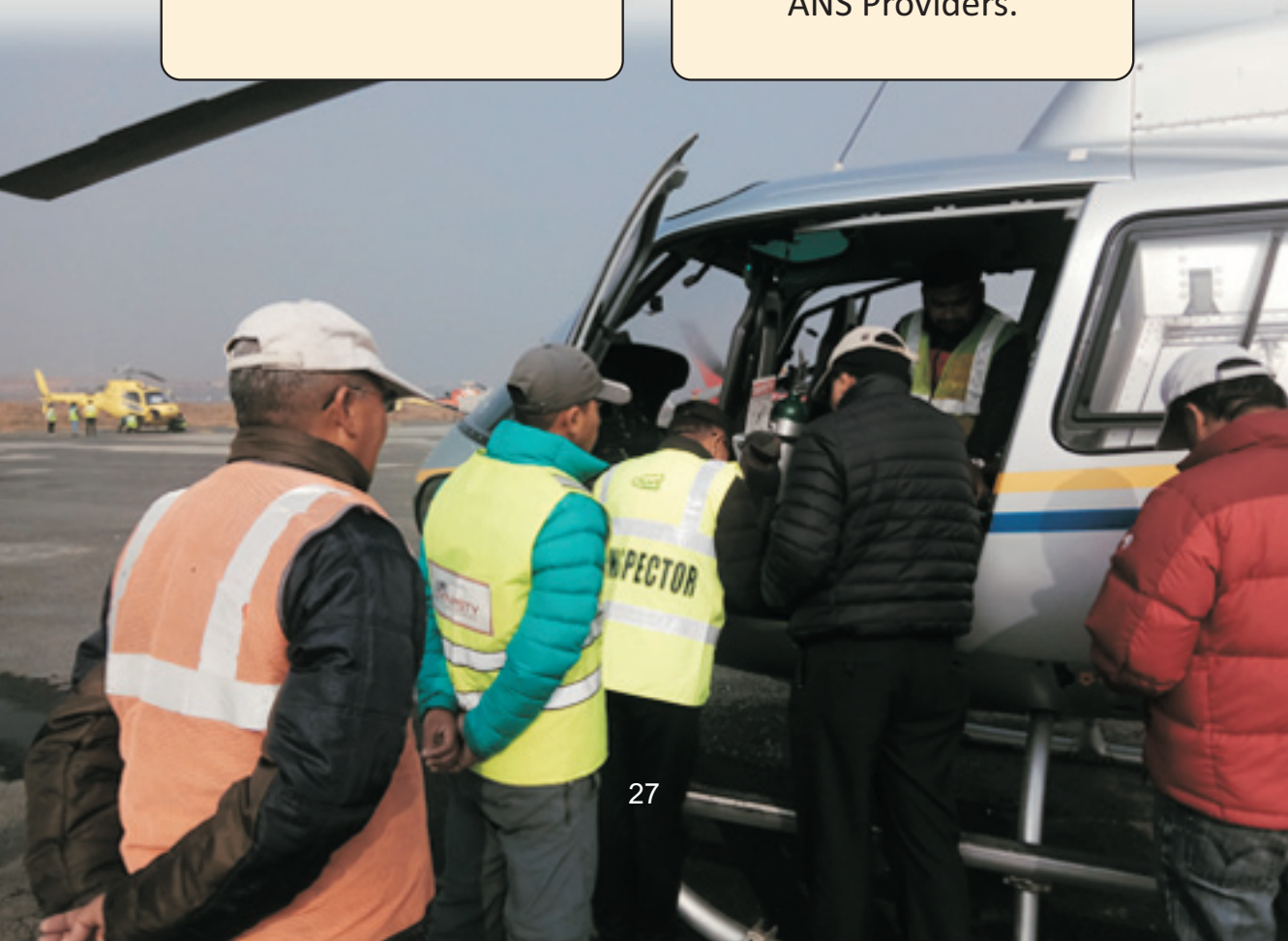
f Introduce Runway sweep-in vehicles by 2020 to control the activity of birds and other wildlife due to presence of attractants on the surface of runway.

5. Other Safety Issues

Other Safety Issues

Lack of distinct separation between Regulatory and Service providers

Problem on SMS implementation by Aerodrome Operators and ANS Providers.



The other safety issues identified are:

5.1 Lack of distinct separation between Regulatory and Service providers.

Civil aviation Authority of Nepal (CAAN) is performing the job of both the regulator and the service provider of Aerodrome operations and Air Navigation Services which is hindering the effective safety oversight of those service providers.

Identified action to resolve the safety issue is as follows:

a. Establish and maintain an independent regulatory oversight authority, which includes separation of oversight functions from service provision function by 2022. (SEI-2A).

5.2 Problem on SMS implementation by Aerodrome Operators and ANS Providers are as follows:

i. Due to lack of clarity in organization Structure to identify the Accountable Executive, ATS operation is not being able to start the SMS implementation.

ii. Due to lack of reporting culture, the level of safety reporting (Mandatory and voluntary) is weak in all service providers.

Identified Actions:

a. Revise the organization structure so that identification of Accountable Executive (in accordance with SMM) for the implementation of SMS in ATS Operation could be executed.

b. Encourage safety reporting through safety awareness activities and ensure just culture within the organization.

6. Safety Performance Measurement

Nepal shall develop the following mechanisms for safety performance measurement of NASP by ensuring the implementation of SEIs and achieving the targets and goals set in the Plan. The actions to be taken as the safety performance measurement are as follows:

1. Nepal shall review the NASP in every four years or earlier, if required, to keep the identified safety issues and adopted SEIs updated and relevant.
2. National Aviation Safety Team (NAST) and High Level Safety Coordination Committee (HLSCC) shall periodically review the safety performance of the Plan to ensure the achievement of targets and goals through effective implementation of the identified SEIs.
3. Safety Management Division (SMD) shall carry out periodic internal inspection and audit to ensure the implementation of SEIs for strengthening the safety deficient areas and CEs of State safety oversight capability.
4. Nepal shall seek the support of RSOO to ensure the implementation of SEIs to strengthen the safety deficient areas of State safety oversight capability, if required.
5. The Flight Safety Standards Department (FSSD) shall conduct the periodic inspection and safety audit of airline operators to ensure the implementation of all SEIs to resolve the operational safety risks associated to the flight operations.
6. The Air Navigation Services Safety Standard Department (ANSSSD) shall conduct the periodic inspection and audit to ensure the implementation of SEIs to resolve the operational risks associated to the ANS.
7. The Aerodrome Safety Standards Department (ASSD) shall conduct the periodic inspection and audit to ensure the implementation of SEIs to resolve the operational risks associated to the Aerodrome operations.

Abbreviation

ACAS- Airborne Collision Avoidance System
AGA- Aerodrome and Ground Aids
AIG- Aircraft Accident and Incident Investigation
AIP- Aeronautical Information Publication
AIR- Airworthiness
AMM- Airport Moving Map
AMSL- Above Mean Sea Level
ANS- Air Navigation Services
ANSSSD- Air Navigation Services Safety Standards Department
APAC- Asia Pacific
ARIWS- Advanced Runway Incursion Warning System
A-SMGCS- Advanced Surface Movement Guidance and Control Systems.
ATC- Air Traffic Control
CAAN- Civil Aviation Authority of Nepal
CAPs- Corrective Action Plans
CE- Critical Element
CFIT- Controlled Flight Into Terrain
EFBs- Electronic Flight Bags
EI- Effective Implementation
ETOD- Electronic Terrain Obstacle Data
EVS- Enhanced Vision System
FSSD- Flight Safety Standards Department
GASP- Global Aviation Safety Plan
GPS- Global Positioning System
HLSCC- High Level Safety Coordination Committee
HRCs- High Risk Categories
HUD- Head-Up Displays
ICAO- International Civil Aviation Organization
LEG- Legislation
LOC-I- Loss of Control- in Flight
MAC- Mid Air Collision
NASP- Nepal Aviation Safety Plan
OLF- Online Framework

OPS- Operation
ORG- Organization
PANS- Procedures for Air Navigation Services
PEL- Personal Licensing
PQs- Protocol Questions
RAIOs- Regional Accident and Incident Investigation Organizations
RASG- Regional Aviation Safety Group
RE- Runway Excursion
RESA- Runway End Safety Area
RI- Runway Incursion
RSOO- Regional Safety Oversight Organization
RSP- Runway Safety Program
RST- Runway Safety Team
SA- Safety Advisory
SEIs- Safety Enhancement Initiatives
SMD- Safety Management Division
SMM- Safety Management Manual
SMS- Safety Management System
SOP- Standard Operating Procedures
SSP- State Safety Programme
STCA- Short Term Conflict Alert
STOL- Short Take Off and Landing
TAWS- Terrain Awareness Warning System
TIA ATS- Tribhuvan International Airport Air Traffic Services.
VFR- Visual Flight Rules
WS- Wildlife Strike

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