Final Report

FOURTH ASIAN ELEPHANT RANGE STATES MEETING

Siem Reap, Cambodia

February 5-7, 2025

Acknowledgement

The Organizing Committee of the 2025 Asian Elephant Range States Meeting in Siem Reap would like to extend its sincere gratitude to His Excellency Dr. Kim Nong, Undersecretary of State and Chair of the Technical Working Group on Elephants, Ministry of Environment, Government of Cambodia, for his leadership and vision. We also thank His Excellency Dr. Srey Sunleang, Director General of the General Directorate of Natural Protected Areas, for his support and commitment. We are deeply appreciative of the Government of Cambodia and all officials involved for graciously hosting the meeting, and for their warm hospitality and active participation throughout the event.

We are grateful to all of the delegates from the Asian Elephant Range States for sharing their insights and experience and ensuring the meeting was successful.

We thank the IUCN Species Survival Commission Asian Elephant Specialist Group (AsESG) for their organizational support and facilitation throughout the meeting. We also gratefully acknowledge the IUCN SSC Center for Species Survival Asian Elephant (CSS Asian Elephant) for providing both financial and logistical support. We appreciate the efforts of its partner organizations, the IUCN SSC, Wildlife Trust of India, Columbus Zoo and Aquarium, and the Forest, Environment and Climate Change Department of Odisha, whose collaboration made this gathering possible. Special thanks to the Columbus Zoo and Aquarium for its generous funding support to CSS Asian Elephant.

We are thankful to the facilitators who assisted in guiding the meeting, the Chair of IUCN SSC AsESG, Mr. Vivek Menon, the Vice Chair, Ms. Heidi Riddle, Dr. Prajna Panda, Program Manager and Member of IUCN SSC AsESG, and all the facilitators of the sessions.

We appreciate the technical and organizing support of the Government of Cambodia in hosting the event.

Executive Summary

The first Asian Elephant Range States Meeting held in Malaysia in 2006 brought together representatives from all 13 Asian elephant range countries to assess threats, identify key factors affecting elephant populations, and recommend priority actions for conservation. The meeting identified five overarching challenges: (i) lack of status and threat assessments, (ii) habitat fragmentation and loss, (iii) human-elephant conflict (HEC), (iv) illegal killing and trade, and (v) management of captive elephants. Priority actions were proposed for each challenge to guide coordinated efforts.

The second meeting, held in Jakarta, Indonesia, in 2017, emphasized HEC, habitat loss, and transboundary issues, while also highlighting emerging concerns such as increasing local elephant populations and captive breeding programs. The key outcome of this meeting was the 2017 Jakarta Declaration for Asian Elephant Conservation,the first collective vision statement from all 13 range countries affirming their commitment to joint conservation efforts guided by principles of sustainable development, scientific collaboration, and shared responsibility. Countries also committed to developing and implementing National Elephant Action Plans.

Continuing this momentum, the third Asian Elephant Range States Meeting took place in Kathmandu, Nepal from 27–29 April 2022. The meeting provided a platform to review conservation progress since Jakarta, gather updated information on national elephant populations, and strengthen regional coordination. Ten technical sessions were held, covering HEC, law enforcement, welfare of captive elephants, and national action planning. The 2022 Kathmandu Declaration for Asian Elephant Conservation was adopted, reaffirming a shared vision to promote coexistence, strengthen partnerships, and enhance implementation of national plans. New commitments included establishing an Asian Elephant Fund and a mechanism for data sharing across range countries.

In line with these evolving efforts, the fourth Asian Elephant Range States Meeting was convened in Siem Reap, Cambodia from 5–7 February 2025. Hosted by the Government of Cambodia with technical support from the IUCN SSC AsESG and financial support from the Center for Species Survival Asian Elephant, the meeting brought together government delegates from all 13 range countries.

The agenda of the fourth meeting focused on deepening collaboration across technical and policy domains. Over the course of 14 technical sessions, participants engaged in detailed discussions on key themes including the development and implementation of National Elephant Conservation Action Plans (NECAPs), corridor management and landscape connectivity, mitigation of human-elephant conflict, impacts of linear infrastructure, management of captive elephants, and sustainable financing for conservation. The sessions also examined advances in elephant population monitoring using technologies such as drones, genetic tools, and AI, as well as the development of an Asian Elephant Database to support coordinated, data-driven decision-making.

The role of the IUCN SSC CSS Asian Elephant, established in 2023, was highlighted as a dedicated center to support range-wide coordination through conservation planning, research, capacity-building, and public awareness. The center will be fully supported for its first five years by the Columbus Zoo and Aquarium.

The meeting concluded with the adoption of the 2025 Siem Reap Declaration for Asian Elephant Conservation. Building upon the 2017 Jakarta and 2022 Kathmandu Declarations, the 2025 Siem Reap Declaration reinforces the commitment of all 13 range countries to coordinated, science-based conservation efforts. It calls for enhanced transboundary cooperation, improved data sharing, the continued implementation of national action plans, strengthened legal enforcement, and the integration of communities into conservation solutions.

Through the Siem Reap Declaration, the Asian elephant range countries have reaffirmed their shared vision to secure the future of this endangered species through collective, inclusive, and regionally coordinated action.

Hosted by:

General Directorate of Natural Protected Area, Ministry of Environment, Government of Cambodia

Facilitated by:

Supported by:

In collaboration with:

Acronyms

AsED	Asian Elephant Database
AI	Artificial Intelligence
AsERSM	Asian Elephant Range States Meeting
AsESG	Asian Elephant Specialist Group
ASEAN	Association of Southeast Asian Nations
ASEAN WEN	ASEAN Wildlife Enforcement Network
AZA SAFE	Association of Zoos and Aquariums - Saving Animals From Extinction
BDT	Bangladeshi Taka
CBD	Convention on Biological Diversity
CBNRM	Community-Based Natural Resource Management
CSS	Center for Species Survival
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
DG	Director General
DNA	Deoxyribonucleic Acid
EEHV	Elephant Endotheliotropic Herpesvirus
ERT	Elephant Response Team
ETB	Elephant Tuberculosis
FD	Forest Department
FFPO	Fauna and Flora Protection Ordinance
FGD	Focus Group Discussion
GDNPA	General Directorate of Natural Protected Area
GIS	Geographic Information System
GPS	Global Positioning System
HEC	Human-Elephant Conflict
INR	Indian Rupee

IUCN	International Union for Conservation of Nature
IUCN WCPA	IUCN World Commission on Protected Areas
MER	Managed Elephant Range
MIKE	Monitoring the Illegal Killing of Elephants
MoEFCC	Ministry of Environment, Forest and Climate Change
MoU	Memorandum of Understanding
NECAP	National Elephant Conservation Action Plan
NGO	Non-Governmental Organization
PA	Protected Area
Lao PDR	Lao People's Democratic Republic
NECAP	National Elephant Conservation Action Plan
QRT	Quick Response Team
SOP	Standard Operating Procedure
SSC	Species Survival Commission
TWG	Technical Working Group
USFWS	United States Fish and Wildlife Service
USD	United States Dollar
WCS	Wildlife Conservation Society
WPA	Wildlife Protection Act
WTI	Wildlife Trust of India
WWF	World Wide Fund for Nature

Day 1

Opening Ceremony

The 4th Asian Elephant Range States Meeting (AsERSM) was held in Siem Reap, Cambodia, from February 5 to 7, 2025. The meeting was hosted by the Government of Cambodia and convened government representatives from all 13 Asian Elephant Range States, who actively participated in discussions and deliberations. The meeting was organized by the IUCN Species Survival Commission (IUCN SSC) Asian Elephant Specialist Group (AsESG), with facilitation support from AsESG and logistical and programmatic support provided by the Center for Species Survival Asian Elephant (CSS Asian Elephant).

In addition to the Range States delegates, members of the IUCN SSC AsESG, officials from the Government of Cambodia, and representatives of CSS Asian Elephant took part in the meeting. CSS Asian Elephant is a collaborative initiative of the IUCN SSC, Wildlife Trust of India (WTI), Columbus Zoo and Aquarium, and the Forest, Environment and Climate Change Department of Odisha, India. The meeting served as a key platform for dialogue, cooperation, and planning among the Range States and technical partners to advance the conservation of the Asian elephant across its range.

The Opening Ceremony of the 4th AsERSM was facilitated by Mr. Tuy Sereivathana, Member of the IUCN SSC AsESG. Serving as Master of Ceremonies, Mr. Sereivathana warmly welcomed all participants, including government delegates, conservation partners, and technical experts from across the region. He acknowledged the significance of the gathering and set the tone for the meeting's collaborative spirit. Following his brief welcome, he invited Mr. Adam Felts, Director, CSS Asian Elephant and Member of the IUCN SSC AsESG, and Ms. Heidi Riddle, Vice Chair of the IUCN SSC AsESG, to deliver the introductory remarks and formally introduce the objectives and structure of the meeting.

Introduction to the Meeting and Welcome Remarks

Mr. Adam Felts extended a warm welcome to the participants of the 4th AsERSM. He highlighted the importance of collaboration between governments, researchers, and conservation practitioners in advancing shared goals for Asian elephant conservation. Mr. Felts emphasized the value of knowledge exchange and technical cooperation, especially in addressing challenges related to captive elephant welfare and coordinated action across the region. He expressed confidence that the meeting would foster meaningful dialogue and generate actionable outcomes.

Ms. Heidi Riddle welcomed all participants to the 4th AsERSM in Cambodia. She expressed her appreciation for the presence of government delegates from the Range States and reaffirmed AsESG's commitment to supporting and facilitating discussions on key conservation priorities for the Asian elephant. Ms. Riddle noted that the meeting agenda had been shaped by inputs from the Range States, based on a pre-meeting survey, ensuring that discussions reflect the most urgent and relevant issues identified by the countries. She emphasized the importance of building consensus and acknowledged the collective efforts of all Range States in organizing the meeting. Ms. Riddle concluded by expressing her enthusiasm for the sessions ahead and her hope for a productive and collaborative meeting.

Key Remark

Dr. Srey Sun Leong, Director General (DG) of the General Directorate of Natural Protected Area(GDNPA), Ministry of Environment, Cambodia, welcomed all delegates to the 4th AsERSM, expressing his sincere appreciation to representatives of the Range States and international partners for their presence. He acknowledged the considerable efforts made by many participants who traveled long distances, including across continents, to attend the meeting in Siem Reap, and thanked them for their continued dedication to the conservation of the Asian elephant.

Dr. Srey Sun Leong, DG of the GDNPA, Ministry of Environment, Cambodia during his key remark

Dr. Srey Sun Leong highlighted the urgent and ongoing threats facing elephant populations in Cambodia and across Asia, noting that habitat loss and fragmentation have significantly reduced the range and connectivity of elephant populations. These pressures, compounded over centuries, have led to a steady decline in population numbers. He stated that, as of 2018, Cambodia's elephant population was estimated at approximately 449 individuals, with 175 to 200 individuals remaining in the wild across three key landscapes. He emphasized that continued habitat degradation and obstruction of migratory routes have placed Cambodia's remaining wild elephant populations under serious threat.

He acknowledged that Cambodia is among the countries most vulnerable to the impacts of climate change and highlighted the increasing pressures posed by deforestation, shifting weather patterns, and land degradation. In response to these challenges, Dr. Srey Sun Leng reaffirmed Cambodia's commitment to a green economy and shared the country's goal of achieving carbon neutrality by 2030. He referenced the Circular Strategy on Environment (2023–2028), launched by the Ministry of Environment, which outlines the national vision for integrating environmental protection, climate resilience, and sustainable development.

Dr. Srey Sun Leong shared that Cambodia has developed the Asian Elephant Conservation Action Plan (2020–2029) to guide conservation efforts. The plan focuses on addressing habitat loss, improving connectivity between fragmented habitats and sub-populations, strengthening law enforcement,

managing HEC, enhancing awareness and education, and improving the monitoring and research of elephant populations and their habitats. He underscored the importance of these efforts in ensuring the long-term survival of elephants in the country. He further reiterated the need for continued regional cooperation, particularly through shared commitments under the 2022 Kathmandu Declaration for Asian elephant conservation. Dr. Srey Sun Leng encouraged Range States to revisit and update the declaration to support collaborative efforts in conservation, management, and welfare of Asian elephants over the next three years. He called on all Range States and partners to work collectively through this platform to align strategies and exchange knowledge and best practices.

Dr. Srey Sun Leong emphasized the vital role of technology, innovation, and data in improving conservation effectiveness, noting that emerging tools can support evidence-based planning and monitoring. He also raised concern about the ongoing threat posed by illegal ivory trade and called for stronger enforcement and transboundary cooperation to tackle wildlife crime.

In closing, Dr. Srey Sun Leong expressed his hope that the meeting would lead to productive exchanges, renewed collaboration, and unified action toward the protection of Asian elephants. He offered traditional Cambodian blessings for longevity, health, wisdom, and strength to all participants, and officially declared the 4th Asian Elephant Range States Meeting open.

A group photograph was taken prior to the commencement of the scheduled sessions of the 4th Asian Elephant Range States Meeting.

Meeting Sessions

The proceedings of the meeting were structured into fourteen key sessions, each designed to assess the current status of Asian elephant conservation, discuss challenges and best practices, and finalize the 2025 Siem Reap Declaration for Asian Elephant Conservation. The sessions were conducted as per the presentation format provided by the organizing committee and included expert facilitation and active participation from government delegates, conservation organizations, and researchers.

The sessions were as follows:

1. Asian Elephant Conservation Status – Brief Country Presentations
2. Management of Elephant Corridors as Strategies for Habitat Fragmentation
3. Captive Elephant Management and Registration
4. Minimizing Impacts of Linear Infrastructure on Elephant Habitat
5. National Action Plans and Range-wide Asian Elephant Action Plan
6. Mapping the Distribution of Elephants Across Range States
7. Strategies and Best Practices for Managing Human-Elephant Conflict
8. Asian Elephant Database
9. Strengthening Transboundary Cooperation
10. Funding Support for Asian Elephant Conservation
11. Best Practices for Elephant Survey Techniques
12. Range Country Requests for Discussion (Community Involvement, Genetics, Habitat Carrying Capacity, Invasive Species Control)
13. Introducing the Centre for Species Survival: Asian Elephant
14. Updating and Launching the 2025 Siem Reap Declaration for Asian Elephant Conservation

The following sections provide a summary of each session, highlighting key knowledge shared, issues raised, and recommendations made during the discussions.

Session I: Asian Elephant Conservation Status – Brief Country Presentations

Range State delegates gave their short presentation about Asian elephant conservation in their country. The presentations provided the following information.

- Status of wild elephant population
- Status of captive elephant population
- Main elephant conservation issues in your country (wild and captive)
- Main threats and elephant mortality causes in your country (wild and captive)
- Does your country have wildlife protocols or guidelines or a National Elephant Action Plan in place?
- Please add any information about how your country has addressed the priorities outlined in the 2022 Kathmandu Declaration for Asian Elephant Conservation.

Session Chaired by His Excellency Dr. Srey Sunleang, Director General, General Directorate of Natural Protected Areas, Ministry of Environment, Cambodia, and Facilitated by Ms. Heidi Riddle, Vice Chair, IUCN SSC AsESG

Session I in progress at the 4th AsERSM in Siem Reap.

Country Presentations:

Bangladesh

Presenter: Dr. Mollah Rezaul Karim, Conservator of Forests, Chattogram Circle, Chattogram, Govt. of Bangladesh

Status of Wild Asian Elephants in Bangladesh

The wild Asian elephant population in Bangladesh is classified as *Critically Endangered*, facing a range of serious threats that compromise its long-term survival. Major contributing factors include food scarcity, habitat loss and degradation, and direct killings, often resulting from escalating human-elephant conflict (HEC). This conflict manifests in human casualties, crop damage, destruction of property, and retaliatory killings of elephants by affected communities. Fragmentation of elephant movement routes due to agricultural expansion, settlement development, and land encroachment further restricts access to essential habitats and corridors.

A comprehensive population survey conducted from 2013 to 2016 estimated the resident wild elephant population at a mean of 268 individuals (range: 210–330), with densities of 0.25 elephants/km² during the wet season and 0.22 elephants/km² during the dry season. Additionally, the migratory wild elephant population was estimated at 93 individuals (range: 79–107). The survey identified and mapped 52 elephant routes, 12 corridors, and 57 transboundary elephant crossing points. Population assessments were carried out using the Hedges and Lawson (2006) dung count method for resident elephants and a combination of dung count and Focus Group Discussions (FGDs) for migratory populations.

Status of Captive Elephants in Bangladesh

The same national survey documented a total of 96 captive elephants (42 males and 54 females). Under the Wildlife (Conservation and Security) Act of 2012, all captive elephants are required to be licensed by the Bangladesh Forest Department. However, only 35 of the 96 identified elephants had been officially licensed as of the survey period.

Of these captive elephants, 16 are housed in government-managed safari parks: 9 in Gazipur Safari Park and 7 in Dulahazara Safari Park. Data on captive elephants were sourced from the Bangladesh Forest Department, as well as other relevant authorities including zoos and safari facilities. Regulatory gaps in licensing and oversight persist, underscoring the need for strengthened enforcement mechanisms and improved welfare protocols.

Main Elephant Conservation Issues in Bangladesh

Wild Elephants:

HEC remains the most critical conservation challenge for wild elephants in Bangladesh. The expansion of agriculture near elephant habitats has intensified interactions between humans and elephants. Despite the identification of 12 elephant corridors and 57 transboundary crossing points, these routes lack formal legal protection, rendering them vulnerable to encroachment and fragmentation. Another major issue is the use of electric fencing and other harmful deterrents, which contribute significantly to elephant mortality.

Additional challenges include insufficient institutional capacity for research and monitoring, a lack of robust knowledge-sharing systems, and limited educational outreach and collaboration with local stakeholders.

Captive Elephants:
The welfare of captive elephants is compromised by the absence of specialized wildlife veterinarians and dedicated treatment facilities. A critical concern is the lack of expertise in managing male elephants during *musth*, a natural but aggressive period, which often results in injuries or fatalities for both elephants and their handlers. Furthermore, most mahouts (elephant caretakers) and owners lack formal training in modern elephant husbandry, leading to suboptimal care and increased risk to human and elephant safety.

Main Threats and Elephant Mortality Causes

Wild Elephants:
The leading threats to wild elephants include encroachment, widespread habitat fragmentation, conversion of forested land into agricultural plots, and expanding human settlements. These factors have not only reduced available habitat but also led to increased HEC incidents. Communities often resort to primitive and fatal deterrent methods, such as electrocution, poisoning, and physical traps- to protect crops and property. On average, 16–31 people and 3–5 elephants are killed annually due to HEC incidents.

Food and water scarcity during the dry season further exacerbates human-elephant interactions, as elephants venture into villages in search of resources. Poaching remains an ongoing issue driven by illegal wildlife trade.

Captive Elephants:
Captive elephants are at risk due to a lack of trained veterinarians and the absence of dedicated wildlife hospitals. Health complications from untreated injuries, poor nutrition, and inadequate medical attention can significantly reduce lifespan and quality of life for captive individuals.

HEC Data and Conflict Mitigation

Between 2018 and 2023, a total of 98 human fatalities and 60 elephant deaths were recorded as a result of HEC and related causes. While annual human deaths ranged from 13 to 31, elephant deaths fluctuated between 8 and 16 per year, with causes ranging from natural illnesses to direct conflict with humans.

In 2018–2019, 16 people lost their lives due to HEC, while 8 elephants died, largely due to non-anthropogenic causes. The causes of elephant deaths during this period included acidity, infections, heart failure, aging, and falls from hilly terrain, indicating a predominance of health-related and accidental mortality.

By 2019–2020, the number of human deaths nearly doubled to 31, while elephant deaths also rose to 14. Notably, electrocution emerged as the leading cause of elephant mortality (accounting for at least 3 deaths), alongside bacterial diseases, general illness, aging, malnutrition, and infections of the lungs and liver.

In 2020–2021, both human and elephant fatalities stood at 16 each. The mortality of elephants during this year was particularly concerning, with deaths attributed to electrocution (3 cases) and poaching (3

cases). Additional causes included flatulence, aging, anemia, fasciolosis, peritonitis, emphysema, a road accident, and even death related to childbirth. One elephant reportedly died due to a broken leg, suggesting prolonged suffering before death.

The situation intensified in 2021–2022, where poaching accounted for more than half of the total 13 elephant deaths, with 7 cases confirmed. Other recorded causes included electrocution (1 case) and poisoning (1 case). The remaining deaths were associated with indigestion, acute tympany, aging, and fatal injuries while climbing high-elevation terrain.

In 2022–2023, the number of human deaths increased to 22, while elephant deaths dropped to 9. However, the causes continued to include direct human-related threats, with one elephant each dying due to electrocution, train collision, and poaching. The remaining cases were either under treatment, occurred due to falls from mountainous terrain, or were attributed to unknown causes.

In response to the rising number of HEC incidents, the Bangladesh government has revised its compensation policy. Families affected by HEC may now receive:

- USD 2,400 for human fatalities
- Up to USD 800 for injuries
- Up to USD 400 for crop, house, or property damage

Additionally, 159 Elephant Response Teams (ERTs) have been established across the country, consisting of 1,590 trained members. These teams are deployed to manage wild elephants in human-dominated landscapes, aiming to reduce both human and elephant casualties through rapid, non-lethal interventions.

Wildlife Protocols and National Elephant Conservation Action Plan

Bangladesh has adopted a formal Elephant Conservation Action Plan (2018–2027), which outlines strategies for both wild and captive elephant management, including habitat protection, conflict mitigation, and population monitoring.

Further, a bilateral protocol on transboundary elephant conservation was signed with India on 17 December 2020. This agreement promotes coordinated efforts in safeguarding migratory elephant populations and establishing connectivity across borders.

Progress on the 2022 Kathmandu Declaration

To implement the commitments under the 2022 Kathmandu Declaration, Bangladesh has undertaken significant steps:

- Infrastructure for connectivity: Construction of three underpasses and one overpass on the Dohazari–Cox's Bazar railway line to reduce elephant-train collisions and enhance safe habitat connectivity.
- Transboundary cooperation: Finalization of a Standard Operating Procedure (SOP) to operationalize the conservation protocol with India.
- Regulatory improvements: Registration and licensing of 35 captive elephants by the Bangladesh Forest Department to ensure welfare compliance.

- Funding commitment: The Government of Bangladesh is preparing a development project dedicated to elephant conservation, with an estimated budget of BDT 41.63 crore, to be financed through the operational budget.

Bhutan

Presenter: Mr. Tashi Wangdi, Senior Forest Ranger, Sarpang, Govt. of Bhutan

Status of Wild Asian Elephants in Bhutan

A national survey conducted in 2016–2017 estimated Bhutan's wild elephant population at 678 individuals. This assessment utilized multiple methodologies including radio telemetry, camera trapping, and dung count to ensure reliable population estimates and distribution data.

Status of Captive Elephants in Bhutan

Bhutan maintains a small but significant population of captive elephants, primarily managed under its forest divisions for conservation, patrolling, and occasional HEC mitigation. Within this system, several protected areas and national parks are currently home to elephants under human care. The Royal Manas National Park (RMNP) houses five captive elephants, comprising one male and four females. Similarly, the Phibsoo Wildlife Sanctuary (PWS) manages four elephants, one male and three females. Additionally, one elephant originally from PWS is now located in Jigme Wangchuck Sanctuary (JWS).

The origins of these elephants reflect a range of acquisition contexts that blend conservation with rescue efforts. Of the elephants currently under captivity, two were born in captivity. Another elephant was rescued as a wild orphan, while one individual was rescued from a municipal drain. One elephant was captured from the wild and subsequently trained.

Main Elephant Conservation Issues in Bhutan

Bhutan faces several key conservation challenges affecting its elephant populations:

- HEC: Increasing interactions between elephants and communities due to overlapping land use.
- Habitat loss, fragmentation, and degradation: Driven by infrastructure development and land-use changes, these pressures limit elephants' access to food, water, and safe movement corridors.
- Lack of resources: Financial and logistical constraints hinder the implementation of conservation strategies.
- Transboundary cooperation needs: The necessity for coordinated management of elephant populations shared with neighboring countries.
- Elephant corridors: The need for protection and maintenance of critical movement corridors is emphasized.

Main Threats and Elephant Mortality Causes

Bhutan's wild elephants face a range of threats, many of which are closely tied to the broader conservation issues:

- Habitat loss resulting in reduced carrying capacity and increased conflict.
- Escalating HEC, leading to both elephant and human casualties.
- Vehicle collisions, particularly where roads intersect elephant habitats.
- Poisoning incidents, likely as retaliatory actions during conflict events.
- Nutritional challenges, especially where habitat degradation limits the availability of natural forage.

HEC Data

Between 2018 and 2023, Bhutan experienced a relatively low but consistent level of HEC, with a total of eight human deaths and twelve elephant fatalities recorded across the five-year period. While the overall numbers are lower than in other range states, the recurring causes,electrocution, poisoning, poaching, and unidentified factors,indicate persistent pressures in shared landscapes.

In 2018–2019, there was one human fatality due to conflict with elephants, and four elephants died, one of which was caused by electrocution. The remaining three deaths were attributed to unspecified causes.

The following year, 2019–2020, saw one human death and two elephant deaths, with electrocution again identified as a direct cause in one case.

In 2020–2021, two human fatalities were reported, while among the two elephant deaths, one was due to poaching. The second death was due to other unspecified reasons.

2021–2022, with two human deaths and two elephant deaths. One elephant died from poisoning. The other death remained unspecified.

In 2022–2023: two more human fatalities were reported, and two elephants died, due to poaching (1) and poisoning (1).

Wildlife Protocols and National Elephant Conservation Action Plan

Bhutan has put in place a structured approach to elephant conservation through the Elephant Conservation Action Plan for Bhutan (2018–2028). The plan was developed with inputs from field managers and species experts, and with technical support from the IUCN SSC AsESG, whose contributions helped ensure the plan's alignment with broader regional and global conservation contexts.

The plan aims to address the key threats and challenges faced by elephants in Bhutan and in adjoining transboundary landscapes. It envisions a future in which a viable elephant population coexists with people, acknowledging the increasing pressures of habitat change and conflict. The goal is to sustain this population through improved habitat management and reduction in HEC, implemented via a set of strategic actions.

These actions are structured under eight broad objectives, which provide a framework for guiding conservation efforts over the ten-year period and beyond. The plan reflects a pragmatic approach to species management, grounded in field realities and informed by both national experience and international expertise.

Conservation Initiatives undertaken

Bhutan has undertaken a range of conservation initiatives that align with its overall conservation goals:

- Habitat restoration and protection, aiming to maintain and improve elephant habitats.
- Human-elephant conflict mitigation
- Research and monitoring, which supports adaptive management and informs policy interventions.

These initiatives reflect Bhutan's broader commitment to balancing conservation with human development needs, although more information is required to assess their scale and impact.

Cambodia

Presenter: Mr. IN Visattha, Office chief of General Directorate of Natural Protected Area, Ministry of Environment, Cambodia

Status of Wild Asian Elephants in Cambodia

Cambodia's wild Asian elephant population has been estimated at approximately 400–600 individuals as of 2018. A more recent study conducted in 2024 provides a revised estimate, suggesting a possible population range between 607–1,169, 607–899, or 822–1,169, still under consideration and validation by the elephant research team led by Dr. Rachel Crouthers. These new figures reflect ongoing efforts to improve population monitoring through more robust survey techniques.

The country's elephant populations are distributed across several ecologically significant landscapes, including coastal and marine ecosystems, mountainous areas, wetlands, flooded zones, and dry forests. These ecosystems serve as important habitats for biodiversity and elephant conservation.

Status of Captive Elephants in Cambodia

As of 2018, Cambodia reported an estimated 70 captive elephants.

Main Elephant Conservation Issues in Cambodia

Cambodia's conservation landscape is challenged by several institutional and ecological constraints:

- Limited human and financial resources that affect the ability to implement and scale up conservation programs.
- Limited access to information and technical tools, restricting scientific monitoring and adaptive management.
- Limited enforcement of conservation laws, despite improvements in the number of trained ranger officers.
- Habitat utilization and restoration challenges that hinder the creation of viable landscapes for elephant populations.

- Need for improved research and monitoring, such as deploying GPS collaring and conducting national DNA surveys to better understand elephant movement and population genetics.

These issues are compounded by the scattered nature of elephant populations and increasing pressure on natural habitats.

Main Threats and Elephant Mortality Causes

Key threats to elephants in Cambodia include:

- Habitat loss and fragmentation, driven by land encroachment and infrastructure expansion.
- HEC, resulting from overlapping land use and growing proximity between elephants and human settlements.
- Poaching and snaring, which, while often targeted at other species, also pose risks to elephants in Protected Areas.
- Disturbance from human activity, including tourism, logging, and settlement expansion.
- Small population sizes, which can lead to genetic isolation and increased vulnerability to environmental change.

HEC Data

From 2002 to 2025, a total of 26 elephant deaths were recorded, with fatalities occurring intermittently across the years. The highest number of elephant deaths in a single year was four in 2010, followed by three deaths each in 2013, 2016, and 2024. Other years such as 2015, 2017, 2018, 2019, 2020, 2022, and 2023 each reported one to two elephant deaths. No elephant deaths were recorded in 2021.

Three human fatalities were documented during this period,one each in 2014, 2024, and 2025.

Elephant rescue operations were recorded in the years 2024 and 2025, with two rescues in 2024 and one in 2025.

Wildlife Protocols and National Elephant Conservation Action Plan

Cambodia has developed the Asian Elephant Conservation Action Plan for Cambodia (2020–2029), led by the General Directorate for Administration of Nature Conservation and Protection. The plan was prepared with technical and financial support from Fauna & Flora International (FFI) and in collaboration with partner conservation organisations and relevant stakeholders.

The purpose of the plan is to identify the primary threats to elephant conservation in Cambodia and to outline the actions needed to address these challenges to ensure the long-term survival of Asian elephants in the country. The initial concept for the plan was developed during a national workshop held in 2012. This was followed by a series of consultation workshops across the country, which gathered inputs from technical experts, provincial authorities, national and international organisations, development partners, and local communities.

The action plan outlines several strategic objectives that guide its implementation, including the following:

- Reducing habitat loss
- Conserving and improving connectivity between habitats and subpopulations
- Strengthening law enforcement
- Preventing live capture of elephants
- Mitigating human-elephant interaction
- Improving awareness and education
- Conducting research and monitoring of elephant populations and habitats

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China

Presenter: Ms. Yongjing Tang, Engineer, Asian Elephant Research Center, Southwest Survey and Planning Institute, National Forestry and Grassland Administration, NFGA, Govt. of China

Status of Wild Asian Elephants in China

China is currently home to over 300 wild Asian elephants, primarily concentrated in the southwestern province of Yunnan. These population estimates are derived from synchronized surveys employing infrared cameras and drones, which provide high-accuracy data for tracking both numbers and movement patterns. The use of modern surveillance tools ensures consistent and reliable monitoring, supporting ongoing conservation management efforts.

Status of Captive Elephants in China

China manages approximately 200 captive Asian elephants. The captive management system is governed by stringent regulatory requirements enforced by the National Forestry and Grassland Administration (NFGA). Facilities must comply with national infrastructure standards, employ qualified veterinarians and caretakers, and provide documentation confirming the legal origin of each elephant.

To improve health monitoring and traceability, microchips are implanted in all captive elephants. Furthermore, the purchase, use, and import/export of captive elephants is tightly controlled and must be approved by the NFGA, ensuring strict national oversight of the captive population.

Main Elephant Conservation Issues in China

Wild Elephants:

- HEC remains a significant concern due to the expanding overlap between elephant ranges and human settlements.
- Migration and dispersion of elephants across unprotected areas has led to management challenges.
- Limited genetic exchange among fragmented subpopulations may pose risks to long-term population viability.

Captive Elephants:

- Small population size limits opportunities for cross-regional breeding programs.

- Health threats, especially the occurrence of Elephant Endotheliotropic Herpesvirus (EEHV), present serious risks to captive elephant welfar**e.**

Main Threats and Elephant Mortality Causes

Wild Elephants:
Strict protection policies have been effective in recent years. According to Monitoring the Illegal Killing of Elephants (MIKE) data, there have been no unnatural deaths, from conflict or poaching, since 2018. China's combination of technology-based surveillance and community engagement has helped achieve these results.

Captive Elephants:
The main threat to captive elephants is disease, particularly EEHV, a fatal virus that primarily affects young elephants. This health challenge underscores the need for continuous veterinary support and monitoring.

HEC Data

Human Casualties:
The number of human deaths from elephant conflict is steadily decreasing, with fewer than five deaths annually reported in recent years.

Elephant Casualties:
No recent non-natural deaths of elephants have been reported. Past incidents of elephant mortality due to HEC or poaching have been mitigated through systematic efforts, and MIKE data confirms the absence of such cases since 2018.

Conflict Mitigation Measures Include:

- Drone and infrared camera networks
- A 70-person patrol team operating outside protected areas
- Early warning systems, including loudspeakers, mobile apps, WeChat, and SMS alerts, ensuring local communities receive real-time updates on elephant movements

These measures enable proactive conflict avoidance and have significantly improved coexistence outcomes.

Wildlife Protocols and National Elephant Conservation Action Plan

China has implemented a comprehensive National Asian Elephant Conservation Project Plan (2019–2030). This strategic framework covers:

- Habitat protection
- Conflict mitigation
- Scientific research
- Regional planning and cooperation

The plan serves as a guiding document for both national and regional conservation efforts and reflects China’s long-term commitment to elephant conservation.

Progress on the 2022 Kathmandu Declaration

China has made substantial progress toward the priorities identified in the 2022 Kathmandu Declaration:

- Establishment of Protected Areas:
  A proposal to establish a National Asian Elephant Park was submitted in February 2023. 94 million yuan allocated from 2022.
- Habitat Restoration and Expansion:
  Since 2022, China has:
  - Restored 13,000 hectares of degraded habitat
  - Protected 400,000 hectares of tropical forest
  - Planted 8,000 hectares of grass under forest canopies to enhance foraging opportunities
- Monitoring and Early Warning Infrastructure:
  - 915 infrared cameras and 177 smart systems deployed
  - A professional drone team of 70 members
  - Over 200,000 early warning messages issued annually to prevent HEC incidents
- Infrastructure Impact Mitigation:
  - New or renovated linear infrastructure projects (such as roads) are required to undergo elephant impact assessments to minimize ecological disruption.
- Public Liability Insurance: As of 2024, China's Asian elephant insurance program has disbursed USD 140 million in compensation for elephant-related damages, reflecting a strong commitment to supporting coexistence.
- Transboundary Conservation: Ongoing collaboration with Laos on cross-border elephant conservation continues to reinforce population connectivity and joint protection efforts.
- Scientific Research and International Cooperation: China is actively strengthening partnerships with domestic and international organizations to enhance scientific understanding and collaborative conservation.

India

Presenter: Mr. Ramesh Kumar Pandey, Inspector General of Forests & Director, (Project Tiger & Project Elephant), Ministry of Environment, Forest & Climate Change, Govt. of India

Status of Wild Asian Elephants in India

The Asian Elephant (*Elephas maximus*), listed under Schedule I of the Wildlife Protection Act, 1972, holds the highest level of legal protection in India. The country is home to over 60% of the global wild Asian elephant population, making it a critical stronghold for the species. According to a synchronized national estimation conducted in 2017, India recorded a population of 29,964 wild elephants, distributed across 15 elephant range states. These populations are spread across four distinct management zones, reflecting ecological and geographical diversity in habitat and herd distribution.

The 2017 estimation used a combination of methodologies, including Sample Block Count, Water Hole/Salt Lick Count, and Dung Count Line Transect, to enhance accuracy across varying terrains. Currently, India is undertaking the first-ever synchronized estimation of elephants and tigers, using a

hybrid methodology that integrates dung-based genetic mark-recapture and camera trap-based distance sampling. This approach aims to improve estimation precision and address spatial overlaps between elephant and tiger habitats, contributing to more effective landscape-level conservation planning.

Status of Captive Elephants in India

According to the 2019 census, India has 2,675 captive elephants, of which 1,821 are privately owned while the remainder are under the custody of the Forest Department. Improving the welfare of these elephants is a stated mandate of Project Elephant.

Recent developments in captive elephant governance and care include:

India has taken several measures to strengthen the management and welfare of captive elephants. The Captive Elephant (Transfer or Transport) Rules, 2024, issued under Section 62 of the Wildlife Protection Act (WPA), 1972, have been introduced to regulate the movement of elephants across the country. Efforts are also underway to develop a Genetic Database of captive elephants, which will support more informed and effective welfare and management practices. In addition, capacity-building workshops on enhancing elephant welfare in captivity are organized regularly to train personnel involved in elephant care. Key technical resources have also been developed to guide best practices, including Caring for Elephants: Managing Health and Welfare in Captivity (2022) and Necropsy and Carcass Disposal of Asian Elephants (2023).

Main Elephant Conservation Issues in India

India's elephant conservation faces several structural and ecological challenges:

- HEC exacerbated by increasing human-elephant interface in rapidly changing landscapes.
- Management of Elephant Reserves, which span complex mosaics of land tenure and land use.
- Securing elephant corridors, many of which traverse inter-state and transboundary areas, requiring multi-jurisdictional collaboration.
- Impacts of linear infrastructure (roads, railways, power lines) on elephant movement and safety.
- Transboundary elephant movements, particularly in regions bordering Nepal, Bhutan, Bangladesh, and Myanmar.

HEC Data

Between 2018–19 and 2022–23, India recorded a total of 2,657 human deaths and 627 elephant deaths due to unnatural causes, highlighting the scale and persistence of HEC across elephant range states.

In 2018–19, 457 people were killed in HEC incidents, while 115 elephants died unnaturally. Electrocution was the leading cause of elephant deaths, accounting for 81 deaths, followed by train collisions (19 deaths). Additionally, there were 9 cases of poisoning and 6 of poaching. Data on road hits and other causes were not available for this year.

In 2019–20, human fatalities increased to 586, while elephant deaths dropped to 99. Of these, 76 elephants died due to electrocution, 14 from train hits, and 9 were poached. There were no recorded poisoning deaths, and road and other cause data were not provided.

In 2020–21, 464 human deaths and 93 elephant deaths were reported. Electrocution remained a major cause with 65 elephant deaths, followed by 12 train hits, 2 poisoning cases, and 14 poaching incidents. Road accidents and other cause data remained unreported.

In 2021–22, 545 human deaths were recorded alongside a sharp rise in elephant deaths to 140. Electrocution caused 57 elephant deaths, followed by 15 train collisions, 2 road hits, 6 poisonings, 4 poaching cases, and a significant 56 deaths due to other causes, marking the first year where this category was explicitly included.

By 2022–23, the numbers further increased to 605 human deaths and 180 elephant deaths,the highest in the five-year period. Electrocution continued to dominate with 100 deaths, followed by 15 train collisions, 2 road hits, 4 poisonings, 14 poaching cases, and 45 deaths attributed to other causes.

These figures underscore electrocution as the most consistent and deadly threat to elephants throughout the period. Train collisions and poaching also remained steady concerns

To address the growing risk of elephant mortality due to infrastructure, particularly railways, India has implemented a series of targeted mitigation strategies. The "General Guidelines for Suggesting Mitigation Measures on Railway Tracks Passing Through Elephant Habitats in India" were released in 2023 to guide infrastructure development in sensitive regions. In 2024, joint surveys were conducted across all elephant range states to assess critical stretches of railway lines that intersect with elephant habitats, with the aim of identifying and implementing site-specific mitigation measures.

In parallel, several research projects have been initiated to better understand the drivers of HEC and inform policy and practice. One project, currently in its final stages, focuses on conflict dynamics in Assam, Chhattisgarh, and Jharkhand, with a view to developing tailored conflict reduction strategies. A Phase II project extends this effort to the states of Odisha, West Bengal, Tamil Nadu, Kerala, and Karnataka, deepening the understanding of region-specific conflict scenarios. In addition, a dedicated project has been launched to support integrated conservation and management strategies for the Ripu-Chirang Elephant Reserve, which is a key elephant habitat in the Eastern Himalayan foothills.

Wildlife Protocols and National Elephant Conservation Action Plan

Launched in 1992, Project Elephant is a flagship initiative of the Government of India aimed at ensuring the long-term conservation of elephants and their habitats. The project plays a critical role in addressing key threats such as poaching, habitat fragmentation, and HEC, while also focusing on improving habitat management and fostering coexistence between elephants and local communities.

As part of its ongoing commitment to elephant conservation, India notified two new Elephant Reserves (ERs) in 2022, Agasthiyarmalai and Terai, bringing the total number of Elephant Reserves in the country to 33, covering a combined area of 80,777 square kilometers. These reserves span the country’s major elephant landscapes and serve as the backbone of habitat protection and species recovery efforts.

India has also prioritized the development of technical documents and evaluation frameworks to guide strategic conservation planning. The Management Effectiveness Evaluation (MEE) of Elephant Reserves, first conducted in 2023, provided insights into the strengths and gaps in current reserve management. A pilot study and revision of criteria and indicators under the MEE framework was

undertaken in 2024 across key reserves, including Shivalik, Kaziranga-Karbi Anglong, Mayurbhanj, and Nilgiri, which represent major elephant landscapes across the country.

To further strengthen management planning, a Framework for the Preparation of Elephant Conservation Plans (ECPs) was developed in 2024, providing structured guidance for reserve-specific conservation strategies. A pilot ECP is currently being implemented in the Nilgiri Elephant Reserve in Tamil Nadu, with the aim of refining this model for broader application across India's elephant reserves.

Progress on the 2022 Kathmandu Declaration

India has undertaken several coordinated initiatives to strengthen elephant conservation and address the growing challenge of human-elephant conflict across key landscapes. Regional meetings and workshops have been conducted in the East-Central, Southern, and North-Eastern landscapes to foster regional coordination and collaboration among stakeholders. As part of these efforts, a Regional Action Plan focusing on HEC is currently under development for the Southern and North-Eastern regions.

To improve population assessment and conservation planning, India is implementing a synchronized elephant estimation using a hybrid methodology, which integrates dung-based genetic mark-recapture with camera trap-based distance sampling. In the domain of HEC management, a field manual on managing human-elephant conflict has been released in multiple languages including English, Hindi, Assamese, Malayalam, Odiya, Kannada, and Tamil, to support local-level interventions. Additionally, national guidelines on HEC management were issued in 2023, and a Rules of Procedure (ROP) for the capture and translocation of elephants in distress and conflict situations was introduced in 2024.

In support of landscape-level planning, several key technical documents have been published. These include manuals and reports on elephant habitat and landscape management, the "Elephant Reserves of India: Land-Use and Land-Cover Classification" (Versions 1 and 2), and the "Elephant Reserves of India: An Atlas" (Versions 1 and 2). Furthermore, the "Elephant Corridors of India (2023)" report provides comprehensive details of 150 ground-validated elephant corridors across the country, serving as a critical tool for connectivity planning and habitat conservation.

Indonesia

Presenter: Mr. Krismanko Padang, Policy Analyst, Directorate of Biodiversity Conservation, Ministry of Environment and Forestry, Govt. of Indonesia

Status of Wild Asian Elephants in Indonesia

Indonesia's wild elephant populations continue to face significant pressure, particularly due to habitat loss, degradation, and fragmentation. Elephant habitats increasingly overlap with human-dominated landscapes, including areas used for agriculture, housing, and infrastructure development, intensifying the risk of human-elephant conflict.

Indonesia's wild elephant population, particularly on the island of Sumatra, is experiencing a marked decline. Based on available estimates, the population has decreased from approximately 1,724 individuals in 2014 to between 1,087 and 1,606 in 2019, with the 2024 estimate falling below 1,000

individuals. These elephants are currently distributed across 22 fragmented population pockets in Sumatra, reflecting the growing challenges of habitat fragmentation and isolation.

The total potential elephant habitat in Sumatra is estimated at 3.05 million hectares, spread across various land-use categories. Of this, 32% falls within conservation areas, 29% in protected forests, 21% in production forests, 10% in converted production forest, and the remaining 20% overlaps with other land uses. However, the effectiveness of these areas in sustaining viable elephant populations is increasingly compromised by encroachment and land-use change.

An assessment of elephant range and land-use overlap shows that of the 3.05 million hectares of home range, 42.59% overlaps with industrial forests, 5% with logging concessions, 4.28% with restoration concessions, and a small proportion (0.09%) with areas under borrow-to-use permits. These overlaps illustrate the pressures elephants face in competing for space within human-dominated landscapes.

Indonesia has identified 22 key elephant metapopulation areas across provinces such as Aceh, Riau, Jambi, Bengkulu, South Sumatra, and Lampung, covering a total area of approximately 4.67 million hectares. The estimated elephant populations within these ranges vary widely, from large groups like Tesso Utara–Tesso Selatan (125–151 elephants) and Jambo Aye–Samarkilang–Lokop–Pinding–Kappi (150–155 elephants), to smaller, more vulnerable populations such as Mahato (3–10 elephants), Mesuji III (1–3 elephants), and HPT Saka–SM Gunung Raya (2–3 elephants).

Overall, the declining population, combined with fragmented habitats and significant overlap with industrial land uses, presents a critical conservation challenge for Indonesia's wild elephants.

Status of Captive Elephants in Indonesia

Indonesia currently has 406 registered captive elephants, which are managed under a structured system that includes a microchip-based identification and studbook database. The country also maintains standard operating procedures (SOPs) for veterinary care, supported by the Sehat Satli database, which tracks health and treatment records.

Captive elephants in Indonesia play an active role in various conservation and management initiatives. They are deployed through Conservation Response Units (CRUs) and Elephant Training Centres, serving multiple purposes beyond captivity. These include patrolling and habitat monitoring, managing human-elephant conflict, ecotourism and educational outreach, scientific research, and participation in breeding programs. Such multifunctional use of captive elephants demonstrates an integrated approach to elephant management, where their role extends into field-level conservation actions and community engagement.

Between 2016 and 2020, a total of 16 births were recorded among ex situ elephants, indicating ongoing reproductive activity within captive settings.

Main Elephant Conservation Issues & mitigation strategy

Indonesia faces several intertwined challenges that threaten both wild and captive elephant populations:

- Habitat loss and degradation, particularly due to expanding land use for agriculture and infrastructure
- Fragmentation of natural habitats, impeding elephant movement and genetic exchange

- Human-elephant conflict, which continues to escalate as elephants venture into cultivated lands
- Land use change, including conversion of forests to plantations or settlements
- Poaching for ivory
- Elephant diseases, which can affect both wild and captive populations

These challenges are exacerbated by development pressures in key elephant landscapes.

Indonesia's mitigation strategy for human–elephant conflict is built on key pillars like spatial multi stakeholder management, reinforcement of local institutions and funding, and the implementation of targeted mitigation measures. A key component involves the development of early warning systems, which integrate GPS-collared elephant data with field patrol information to provide real-time alerts and improve response readiness.

Other approaches include elephant herding to redirect elephants away from settlements and farmlands, and translocation efforts, particularly where isolated or conflict-prone elephant populations need to be relocated to safer habitats. Ecotourism development is also emphasized, aiming to convert elephant presence into economic opportunities by promoting alternative livelihood models. Additionally, the strategy includes aerial arrangements to support wildlife-friendly habitat connectivity and explore commodity alternatives that are less prone to conflict.

Main Threats and Elephant Mortality Causes

Between 2019–20 and 2022–23, the primary causes of elephant mortality in Sumatra were poaching, electrocution, and poisoning. These three threats consistently accounted for the majority of unnatural deaths recorded each year. Poaching was most prevalent in 2019–20, with 5 cases, and remained present in subsequent years with 2–3 deaths annually. Electrocution emerged as a recurrent cause from 2021–22 onwards, with 3 elephants electrocuted each year for three consecutive years. Poisoning was reported every year and remained steady at 2–3 deaths annually, indicating the continued use of toxic substances in or around elephant habitats.

No elephant deaths were attributed to train or road collisions during this four-year period, suggesting that linear infrastructure is not currently a major threat in the documented areas. A notable portion of the deaths,ranging from 1 to 6 annually,were categorized under other causes.

The repeated occurrence of direct human-induced threats, particularly poaching and poisoning, indicates the vulnerability of elephant populations in fragmented and contested landscapes. Electrocution, likely linked to deterrent measures or unsecured power lines, adds to the cumulative pressures affecting the long-term survival of wild elephants in Sumatra.

HEC Data & mitigation strategies

Human-elephant conflict is acknowledged as a core conservation issue, and captive elephants are actively used in conflict response teams (CRUs).

Between 2019–20 and 2022–23, a total of 10 human deaths and 47 elephant deaths due to unnatural causes were recorded in Sumatra, reflecting ongoing and localized instances of human–elephant conflict.

In 2019–20, 2 human fatalities were reported. During the same period, 15 elephants died due to unnatural causes. Among these, poaching was the leading cause, accounting for 5 deaths, followed by electrocution and poisoning, with 2 deaths each. An additional 6 elephants died due to unspecified causes. There were no reported deaths from train or road collisions.

In 2020–21, the number of human deaths remained at 2, while 12 elephants were killed. Poisoning and poaching were again the primary causes, each resulting in 3 deaths. There were no reported electrocution or infrastructure-related deaths, and 6 elephants died from other unidentified causes.

In 2021–22, human fatalities rose to 4, the highest recorded in the four-year period. 11 elephants died, with electrocution and poisoning each contributing to 3 deaths, and poaching responsible for 2 deaths. The remaining 3 deaths were attributed to other unspecified causes. No deaths occurred due to train or road hits.

In 2022–23, the number of human deaths dropped to 2, and 9 elephant deaths were reported,the lowest annual elephant mortality during the period. As in previous years, electrocution and poisoning accounted for 3 deaths each, while 2 elephants were poached. One elephant died from an unspecified cause. There were again no recorded fatalities from transport-related incidents.

The data highlights the persistent role of poaching, electrocution, and poisoning as primary threats to elephants in Sumatra, while also noting consistent, though limited, human casualties each year. The absence of deaths due to road or rail collisions suggests a different conflict profile compared to other regions, with a higher concentration of threats arising from direct human-elephant interactions and habitat-related pressures.

A diverse set of intervention strategies has been applied in Sumatra to manage and reduce HEC, reflecting a multi-pronged approach tailored to local conditions. These include preventive, deterrent, responsive, and community-based measures, supported by both technical tools and social engagement.

Physical barriers have been used as a key preventive strategy to restrict elephant access to human-dominated areas. Measures such as electric fencing, canal construction, and demarcation with thorny plants have been implemented in conflict-prone zones. Complementing these are biological barriers, including chili rope fencing, which leverage elephants' natural aversion to certain plants.

Deterrent techniques have also been employed, such as carbide blasts and acetylene guns, aimed at scaring elephants away from settlements and farmland. In cases where elephants continue to pose a persistent threat, translocation of problem individuals, particularly male elephants, has been undertaken.

Efforts to reduce risk and anticipate conflict include the use of GPS collars to support early warning systems, enabling communities to respond proactively when elephants approach. Economic compensation schemes are in place to support people who have been injured or lost family members due to conflict, although not all forms of financial incentives have been implemented.

Finally, efforts to increase social carrying capacity have focused on community-based natural resource management (CBNRM) and awareness-raising activities, including village meetings and school visits, to foster coexistence and reduce hostility towards elephants.

Wildlife Protocols and National Elephant Conservation Action Plan

Indonesia has outlined a number of strategic protocols and plans for elephant conservation, including:

- Priority Programs (2024–2034) as per the DG of Natural Resource and Ecosystem Conservation circular, which focus on:
    - Protection of wild elephants
    - Capacity building for law enforcement personnel
    - Conflict mitigation and promotion of coexistence
    - Threat removal in priority areas
    - Addressing critical populations and identifying new habitats

Indonesia has implemented a range of protocols and strategic action plans to strengthen the conservation of its wild elephant populations and broader biodiversity. A major component of this effort is the application of SMART-based patrolling and monitoring systems, which enable real-time data collection and reporting from the field, enhancing the effectiveness of anti-poaching and habitat surveillance efforts.

Under the broader wildlife protection framework, several operational elements have been prioritized. These include the establishment of wildlife crime units, joint patrolling mechanisms, and strategies for conflict mitigation. There is also a strong focus on habitat and population management, with conservation authorities collaborating closely with local stakeholders. A legal monitoring and verification system is in place to oversee land-use practices such as mining and plantation expansion, ensuring they align with environmental regulations.

Strategic directives also include the development of wildlife sanctuaries and protected reserves, complemented by public awareness campaigns aimed at fostering community support for conservation efforts. Indonesia has developed a series of technical documents to guide and support wildlife conservation and elephant management efforts. These include directives on addressing poaching and trapping inside and outside forest areas, implementation strategies for priority actions in Sumatran elephant management, standard procedures for wildlife protection, and protocols for the rescue of confiscated wildlife. Additional documents provide guidance on the protection of wildlife within forest utilization permit areas and the mainstreaming of biodiversity conservation within national sustainable development strategies.

These initiatives reflect a structured and multi-tiered approach to elephant conservation in Indonesia, linking field-based action, legal enforcement, inter-agency collaboration, and national policy to protect endangered species and their habitats.

Lao PDR

Presenter: Mr. Chanthone Phothitay, Deputy Director, Wildlife and CITES Management Division, Department of Forestry, Ministry of Agriculture and Forestry

Status of Wild Asian Elephants in Lao PDR

As of the most recent national estimate in 2020, the wild elephant population in Lao PDR is estimated at approximately 300–400 individuals, a dramatic decline from historical figures:

- 1980: 2,000–3,000
- 2002: 800–1,200
- 2010: 560–800

These estimates were derived from field surveys, community interviews, and studies conducted by the Department of Forestry in collaboration with WWF, WCS, and the National University of Laos. The decline in numbers is attributed to habitat loss, conflict, poaching, and weak enforcement mechanisms.

Status of Captive Elephants in Lao PDR

There are an estimated 350–450 domesticated (captive) elephants, based on national elephant registers, microchip tracking data, and monitoring conducted by the Elephant Conservation Centre (ECC). While microchipping and monitoring systems are in place, captive elephant management remains limited by resource constraints.

Only ECC has an operational breeding program, and broader challenges persist, including insufficient veterinary care, poor nutrition, and lack of welfare standards, especially in tourist camps.

Main Elephant Conservation Issues in Lao PDR

Wild Elephants:

- Severe habitat loss and fragmentation due to logging, land conversion, NTFP (non-timber forest product) collection, and infrastructure development
- Illegal poaching and retaliatory killings, particularly in areas affected by HEC
- Increased human-elephant conflict
- Low public awareness and limited education efforts
- Lack of ecological knowledge and capacity in wildlife and habitat management

Captive Elephants:

- Limited breeding programs, currently only active at ECC
- Substandard veterinary and welfare conditions
- Inadequate nutritional support at many private camps
- Weak enforcement of care standards

Main Threats and Elephant Mortality Causes

Lao PDR is home to a declining population of Asian elephants, both in the wild and in captivity. Despite various efforts by the government over the years,including the introduction of laws and regulations to support elephant conservation and management,illegal killing and habitat destruction have continued. This is largely attributed to the expansion of infrastructure in areas historically used by both wild and domesticated elephants, resulting in significant habitat loss and fragmentation.

Current threats to elephant populations in Lao PDR remain extensive. Forest conversion and land development have led to severe habitat degradation, while human-elephant conflict continues to result in the destruction of crops, property, and the loss of human and elephant lives. Other key challenges include the illegal wildlife trade and poaching, which persist due to weak enforcement and low prosecution rates, as well as the growing risks from forest fires, land encroachment, and a lack of funding and trained personnel to monitor and manage elephant conservation effectively. The absence of robust monitoring and impact assessment systems further compounds these issues.

Although legal frameworks are in place, the scale and complexity of these threats continue to place both wild and captive elephant populations at risk, underscoring the need for strengthened implementation, technical support, and sustained funding.

HEC Data and Impacts

Between 2018 and 2024, incidents of HEC have persisted across multiple villages and resulted in fatalities on both sides. In 2018–2019, one elephant was killed due to crop protection measures, while two human fatalities were recorded. The conflict footprint was already wide, with 40 villages affected in a single administrative unit. In 2019–2020, elephant killings rose slightly, with two deaths due to poaching and one related to crop protection. Human deaths remained stable at two, and ten more villages across a second unit reported HEC, indicating a spread of conflict zones.

In 2020–2021, three human fatalities marked the highest toll for any year during the period, although elephant deaths remained at one (due to crop protection). This suggests intensified encounters, possibly in areas with limited mitigation systems. Notably, 19 additional villages experienced conflict, further confirming expansion of affected zones.

The 2021–2022 period showed a similar trend: one elephant was poisoned, another poached, and two human deaths were reported. Conflict continued to reach new areas, with another ten villages affected. However, the most severe spike occurred in 2022–2023, when elephant mortality surged to 11,ten from poaching and one from poisoning,while human fatalities remained at two. This year also saw the highest number of new conflict-affected villages, with 54 added in a single administrative unit and 46 in another, suggesting both spatial intensification and failure of deterrent systems.

In 2023–2024, elephant killings declined sharply to just one (due to poaching), and no human deaths were reported during the period covered. However, an additional 12 villages were newly impacted, confirming that while lethal incidents may have decreased, the geographic spread of conflict continues.

Wildlife Protocols and National Elephant Conservation Action Plan

The government has designated 25 National Protected Areas (NPAs) to preserve biodiversity and safeguard endangered species, including elephants. Notably, Nakai-Nam Theun National Park and Nam Poui NPA have been designated as MIKE (Monitoring the Illegal Killing of Elephants) sites under IUCN since 2010.

The legal framework has recently been strengthened through:

- The National Wildlife Law (2023), which classifies species based on conservation status.
- The Forestry Law (2019) and the Animal Husbandry and Veterinary Law (2016), which govern habitat management, animal welfare, and health.

- Prime Minister's Order No. 05 (2018), which mandates strict enforcement against illegal wildlife trade.
- The National Ivory Action Plan (2020), aligning national legislation with CITES commitments.
- The National Elephant Action Plan (2022), covering the management of both wild and captive elephants.

Progress on the 2022 Kathmandu Declaration

Lao PDR has adopted a National Elephant Action Plan (2022–2032) and is currently preparing for the implementation of various activities outlined within it. The plan was developed through a collaborative process that included input from central and local government agencies, as well as international conservation partners such as WCS, IUCN, and WWF. It draws on data collected through field surveys and incorporates knowledge and insights provided by local forestry officials and community members across different regions, ensuring that the strategy is grounded in both scientific research and on-the-ground realities.

Session I (Continued): Asian Elephant Conservation Status – Brief Country Presentations

Session Chaired by Mr. Kong Kim Sreng, Government of Cambodia, and Facilitated by Dr. Megan English, Member, IUCN SSC AsESG

Session I continues after a short break at the 4th AsERSM

Country Presentations:

Sabah Malaysia

Presenter: Mr. Primus Lambut, Wildlife Officer and Species Manager, Sabah Wildlife Department, Government of Sabah Malaysia

Status of Wild Asian Elephants in Sabah

Sabah's wild elephant population is estimated at 1,000–1,500 individuals, occurring primarily within three Managed Elephant Ranges (MERs): Lower Kinabatangan, Tabin, and Central Sabah. These estimates are based on expert consensus cited in the Bornean Elephant Action Plan 2020–2029.

A recent published study by Cheah and Yoganand (2022) focused on Central Sabah using the dung count method. It estimated 387 elephants in surveyed areas, 451 elephants when including known but unsurveyed habitats in Central Sabah

These data suggest fragmented but potentially viable subpopulations within the state's primary elephant landscapes.

Status of Captive Elephants in Sabah

As of the latest data, a total of 30 captive elephants are housed across three facilities in Sabah. The Lok Kawi Wildlife Park holds the highest number, with 16 elephants,10 males and 6 females. The Bornean Elephant Sanctuary accommodates 8 individuals, including 6 males and 2 females. Meanwhile, the Sepilok Orangutan Rehabilitation Centre houses 6 elephants, comprising 5 males and 1 female.

These facilities serve various roles in elephant conservation and management, including rehabilitation, care, and public education. The sex ratio indicates a higher number of male elephants in captivity, which may have implications for long-term welfare and management strategies.

Captive elephants in Sabah are generally the result of rescue operations involving:

- Orphaned juveniles
- Stranded or injured individuals
- Elephants involved in HEC or left behind by herds

Elephant conservation in Sabah faces multiple challenges across both wild and captive populations.

For wild populations, the key issues include:

- Human–elephant conflict, especially in agricultural landscapes where elephants often come into contact with people and crops.
- Chronic poisoning, likely linked to exposure to chemicals used in farming areas.
- Limited manpower and financial constraints, which hinder effective monitoring and conflict response.
- Infrastructure development,such as roads and plantations,fails to account for elephant movement corridors.

- Low public awareness about elephant conservation issues, which affects support for conservation actions.
- Gaps in scientific data, particularly on elephant demographics, birth rates, and causes of mortality, which impedes evidence-based planning.

For captive populations, the concerns include:

- Increasing number of orphaned juvenile elephants being brought into captivity.
- Limited staff capacity to implement best practices in ex-situ management, including veterinary care, medical management, and handling of musth bulls.
- Insufficient funding for constructing appropriate facilities and implementing enrichment programs.
- Lack of expertise in the architecture and design of animal captive facilities.

Main Threats and Elephant Mortality Causes

Elephants in Sabah face several persistent threats that jeopardize both their survival and habitat integrity. One of the most critical issues is habitat loss and fragmentation, driven by expanding land-use change, particularly in agriculture and development sectors. As elephant ranges shrink and become disconnected, movement patterns are disrupted, leading to increased encounters with human settlements.

HEC is another major threat, often resulting in retaliatory killings when elephants damage crops or property. These conflicts are particularly intense in agricultural zones where elephants stray in search of food or water. Additionally, there is rising concern over chronic poisoning, suspected to result from exposure to chemicals and agrotoxins used in farmlands adjacent to elephant habitats.

Compounding these threats is the expansion of infrastructure development,such as roads and plantations,within elephant landscapes, often carried out without consideration for elephant movement corridors or ecological needs, further escalating conflict and habitat degradation. Addressing these interconnected threats requires landscape-level planning and integrated conservation strategies.

The major causes of elephant deaths in Sabah stem from both human-induced and natural factors. Gunshot wounds remain a significant concern, often resulting from retaliatory killings linked to HEC, as well as poaching for ivory. Another major threat is chronic poisoning, which is suspected to result from exposure to heavy metals and agrochemicals in agricultural areas. In addition to anthropogenic causes, elephants in Sabah also die from natural causes, including stillbirths, aggressive interactions or fights, and traumatic injuries, such as those sustained from falling trees. Among captive elephants, a key concern is EEHV, a viral infection known to cause sudden death, particularly in young individuals. These varied threats underscore the complexity of elephant conservation in the region and the need for comprehensive health and conflict mitigation strategies.

Additional causes include snaring, poisoning, septicaemia, and bullying among elephants, as noted in cases of unnatural deaths.

HEC Data

Between 2018–19 and 2023–24, a total of 1 human death and 173 elephant deaths due to unnatural causes were reported in Sabah, underscoring the region's continued challenges with elephant mortality linked to HEC and related factors.

In 2018–19, 30 elephants died due to unnatural causes. Among these, 7 deaths were caused by poaching, while no human fatalities or infrastructure-related incidents were recorded.

In 2019–20, 24 elephants were reported dead, with no deaths attributed to poaching, electrocution, or road or train hits.

In 2020–21, the number of elephant deaths slightly declined to 23, again with no confirmed deaths due to poaching, electrocution, or transport-related collisions.

In 2021–22, 25 elephant deaths were recorded, including 1 death from poaching. No human fatalities were reported.

In 2022–23, 1 human death was documented. A total of 33 elephants died, including 1 death from electrocution and 1 road hit (car collision). No poaching deaths were reported this year.

In 2023–24, elephant mortality reached its peak with 38 deaths, including 2 due to poaching. No human fatalities occurred.

Of the total 173 elephant deaths recorded during this period, 161 deaths were classified under "other causes". These include a range of factors such as natural causes (e.g., injuries from being bullied by other elephants), poisoning, septicaemia, and chronic snare injuries, all of which reflect gaps in timely medical intervention, habitat safety, and post-mortem diagnostics. These findings highlight the need for improved response systems, forensic capacity, and preventive strategies in elephant conservation across Sabah.

Wildlife Protocols and National Elephant Conservation Action Plan

Sabah's overarching conservation framework is guided by the Bornean Elephant Action Plan 2020–2029, endorsed by the state government in 2020. This 10-year plan focuses on:

- Protection and law enforcement to stop elephant killings
- Enhancing habitat connectivity
- Best practices for ex-situ elephant care
- Scientific research and population monitoring

A planned RM20 million budget over 10 years to implement the strategy.

The Bornean Elephant Action Plan 2020–2029 was developed with the support of multiple non-governmental organizations (NGOs) to guide long-term conservation efforts in Sabah. To address human–elephant conflict (HEC), the Sabah Wildlife Department partnered with NGOs such as WWF and Seratu Aatai, along with district-level offices, to establish landscape-level working groups and strengthen community capacity building for managing conflict more effectively.

Efforts to improve captive elephant welfare have included collaboration with international zoos and specialized NGOs, including Oregon Zoo and Wild Welfare, which have contributed to staff training and knowledge exchange to raise welfare standards. Additionally, Sabah maintains an ongoing partnership with the National Poison Centre to identify the presence and impact of chemicals or heavy metals suspected of causing chronic poisoning in elephants.

Cross-border conservation is also a key focus, with bilateral engagement between the Sabah and North Kalimantan local governments underway to secure a transboundary corridor and curb ivory trafficking, supported by technical and logistical assistance from WWF. These collaborative actions reflect a multi-sectoral approach to elephant conservation in the region.

Progress on the 2022 Kathmandu Declaration

As part of its progress toward fulfilling the commitments outlined in the 2022 Kathmandu Declaration, Sabah has undertaken key initiatives aimed at promoting human–elephant coexistence and improving the welfare of captive elephants. To support coexistence, efforts have been made to create wildlife corridors that facilitate safe elephant movement across fragmented landscapes. Additionally, Community Elephant Ranger Teams (CERTs) have been established to engage local communities directly in monitoring and managing human–elephant conflict, thereby strengthening grassroots involvement in conservation.

In parallel, attention has been given to the welfare of captive elephants through the development of the Captive Elephant Management Plan (CEMP). This plan provides a structured framework and set of guidelines to ensure the appropriate care, health, and ethical management of elephants held in captivity. Together, these initiatives reflect Sabah's integrated approach to advancing both in situ and ex situ elephant conservation priorities in alignment with the Kathmandu Declaration.

Peninsular Malaysia

Presenter: Mr. Salman bin Saaban, Director of Protected Areas Division, Department of Wildlife & National Parks (PERHILITAN), Ministry of Natural Resources & Environmental Sustainability

Status of Wild Asian Elephants in Peninsular Malaysia

The most recent population estimate of wild elephants in Peninsular Malaysia dates back to 2011, which placed the population between 1,223 and 1,677 individuals. These elephants are primarily distributed across three Managed Elephant Ranges (MERs): the Belum–Temengor Forest Complex, the Taman Negara National Park Complex, and the Endau–Rompin Forest Complex. These landscapes represent critical strongholds for wild elephants, providing essential habitat connectivity and ecological security in an increasingly fragmented environment.

To update population data and improve monitoring accuracy, ongoing studies using DNA molecular techniques are being conducted, particularly in Taman Negara National Park and the Ulu Muda Forest Reserve. These studies aim to generate more precise estimates of population size, structure, and distribution by incorporating advanced methods such as genetic mark-recapture. There are also plans to expand this research across additional elephant ranges under the framework of the 13th Malaysia Plan (2025–2030).

Status of Captive Elephants in Peninsular Malaysia

As of the latest available data, Peninsular Malaysia is home to 82 captive elephants, comprising 22 males and 60 females, distributed across a variety of conservation centers, sanctuaries, safari parks, and

zoos. The management of these elephants falls primarily under government and state-linked institutions, reflecting a centralized approach to captive elephant care and regulation.

The National Elephant Conservation Center (NECC), managed by PERHILITAN (Department of Wildlife and National Parks), holds the largest number with 25 elephants (6 males and 19 females). Other PERHILITAN-managed facilities include the Terengganu Elephant Conservation Center (TECC) with 9 elephants, and the Johor Elephant Sanctuary (JES) housing 4 elephants. The Keniyir Elephant Conservation Village (KECV), under the Terengganu State Government, maintains 18 elephants, equally divided between males and females.

Several elephants are also cared for by local authorities and private entities. These include A'Famosa Safari Wonderland (9 elephants), Zoo Taiping & Night Safari (7 elephants), Kemaman Zoo (3), Melaka Zoo (3), National Zoo (2), and Johor Zoo (2).

Captive elephants in Peninsular Malaysia are subject to regulatory oversight by PERHILITAN. All elephants must be registered and microchipped, and ownership requires a special permit. This system ensures proper identification, monitoring, and welfare compliance across facilities, whether operated by government bodies, local councils, or private entities.

Main Elephant Conservation Issues in Peninsular Malaysia

Key challenges affecting elephant conservation in the region include:

- Peninsular Malaysia faces several ongoing challenges in ensuring the long-term conservation of its wild elephant populations. One of the foremost issues is the establishment of elephant corridors and the need to reconnect fragmented habitats. As development pressures continue to encroach upon natural landscapes, elephant ranges have become increasingly isolated, disrupting natural movement patterns and increasing the likelihood of conflict with human settlements. The lack of functional and legally protected corridors limits the elephants' ability to access essential resources such as food, water, and breeding grounds, ultimately affecting their ecological viability.

- Another significant constraint is the absence of carrying capacity studies, which are essential to understanding how many elephants the available habitat can sustainably support. Without this data, it is difficult to formulate effective management strategies or to balance conservation needs with land-use planning. Furthermore, elephant population surveys remain limited, primarily due to the high cost and logistical complexities involved in conducting large-scale and scientifically robust assessments across challenging terrains.

- Additionally, enhancing public tolerance and fostering a culture of coexistence between humans and elephants remains a major challenge. Human-elephant conflict, particularly in agricultural zones, has contributed to rising tension and resistance among local communities. Efforts to promote coexistence often face barriers such as lack of awareness, safety concerns, and economic losses caused by elephant activity. Building community support requires sustained engagement, conflict mitigation tools, and incentive-based models to encourage people to participate actively in conservation solutions.

Main Threats and Elephant Mortality Causes

Elephants in Peninsular Malaysia face a variety of threats that contribute to both individual mortality and broader population pressures. One of the most critical and escalating challenges is human–elephant conflict (HEC). The number of reported HEC incidents has been rising steadily every year, reflecting increasing pressure on shared landscapes. In 2020, there were 546 reported cases, and by 2024, this number had nearly tripled to 1,486 cases, signaling a concerning trend that threatens both human safety and elephant survival.

A significant number of elephant deaths are directly linked to these conflicts, particularly through retaliatory killings following crop damage or confrontations in human settlements. In such cases, elephants are often targeted as a response to economic losses or perceived threats. Poisoning, both deliberate and accidental, is another frequent outcome of escalating conflict, especially in agricultural areas where chemicals are accessible and used to deter elephants from foraging.

Illegal hunting and snaring remain persistent threats in forested areas. Although large-scale poaching for ivory is less common, snaring is widespread and indiscriminate, often leading to prolonged suffering, infections, and eventual death for trapped elephants. The lack of rapid response capacity to treat or rescue snared individuals further compounds this problem.

In addition to human-related threats, elephants are vulnerable to a range of natural causes. These include drowning during seasonal floods, becoming stuck in mud, or falling from steep terrain, particularly in fragmented or degraded habitats.

Health-related factors such as disease, aging, and complications in newborns,especially in captive or stressed populations,also contribute to mortality. Limited veterinary infrastructure and wildlife health surveillance in many areas make it difficult to detect and respond to these issues in a timely manner.c

HEC Data

Between 2018 and 2022, Peninsular Malaysia recorded a total of 8 human deaths and 77 elephant deaths due to unnatural causes, underscoring the ongoing and complex nature of human–elephant conflict (HEC) in the region. The annual data reveals that poisoning, road collisions, and poaching are the most consistently reported causes, while a significant portion of elephant deaths fall under “other causes,” reflecting the diverse and often difficult-to-prevent nature of threats faced by elephants.

In 2018, there were 2 human fatalities and 16 elephant deaths. The leading causes included poisoning (7 cases) and poaching (3 cases), along with 2 electrocutions and 1 road hit. Additionally, 3 elephant deaths were attributed to other causes.

In 2019, 1 human death and 18 elephant fatalities were recorded. Elephant deaths included poisoning (5 cases), poaching (2 cases), and 2 road accidents. No electrocutions or train hits occurred, while 9 elephants died due to other causes.

In 2020, 2 human deaths and 10 elephant deaths were documented. The primary causes were poisoning (3 deaths) and 1 road hit, with 6 elephants dying due to other unspecified causes. No poaching or electrocution was reported.

In 2021, the number of human fatalities dropped to 1, while elephant deaths rose to 18. These included poisoning (4 cases) and 2 road hits, with 12 elephants recorded under other causes. There were no reports of poaching, electrocution, or train-related incidents that year.

In 2022, 2 human fatalities and 15 elephant deaths occurred. Causes included poisoning (4 deaths), poaching (1 death), and 1 road hit. 9 elephants died due to other causes.

Across the five-year period, poisoning emerged as the leading direct cause, responsible for 23 deaths, followed by road hits (7) and poaching (6). Electrocution (2 deaths) was only reported in 2018. However, the most significant category,39 out of 77 deaths,was classified under “other causes”, which includes a wide range of situations such as:

- Self-defense killings during operations
- Post-capture stress or suffocation
- Drowning during high floods
- Natural causes like getting stuck in mud or falling from high slopes
  Deaths of newborn calves
- Disease or old age
- Elimination of rogue elephants

Wildlife Protocols and National Elephant Conservation Action Plan

Peninsular Malaysia published the National Elephant Conservation Action Plan (NECAP) 2.0 (2023–2030) in 2023. This updated strategy advocates for:

- Policy of coexistence, promoted through engagement sessions across elephant-range states
- Corridor establishment and elephant food banks, supported by plantation companies
- Connectivity planning aligned with the CFS Master Plan for Ecological Linkages 2022 (PIRECFS 2022)
- Manuals and handbooks for both captive care and electric fencing
- Use of drones, SMART patrols, and the MIKE Online Database for monitoring two designated MIKE sites

Progress on the 2022 Kathmandu Declaration

Peninsular Malaysia has made notable progress in advancing the priorities outlined in the 2022 Kathmandu Declaration through a series of strategic, policy, and ground-level initiatives. One of the key milestones was the publication of the National Elephant Conservation Action Plan (NECAP 2.0) 2023–2030, which was officially released in 2023. NECAP 2.0 promotes a comprehensive conservation framework, including an emphasis on co-existence, which has been actively advocated through engagement sessions with elephant-range states across Peninsular Malaysia during 2023 and 2024.

To improve habitat connectivity, Malaysia has taken steps to encourage and support the establishment of elephant corridors and foodbanks, particularly with the involvement of plantation companies. These efforts are complemented by the use of scientific and evidence-based approaches to implement the Central Forest Spine (CFS) Master Plan for Ecological Linkages 2022 (PIRECFS 2022), which aims to enhance connectivity across fragmented forest landscapes.

On the management side, technical guidance documents such as the Handbook of Elephant in Captivity Management and the Manual of Electric Fencing Guidelines (intended for both zoo operators and public use) are currently in their final draft stages, offering a standardized approach to captive care and conflict mitigation.

In terms of protection and enforcement, the Biodiversity Protection & Patrolling Program (BP3) is being implemented, which includes the Community Rangers Programme and collaboration with the Royal Malaysia Police and other enforcement agencies under the Integrated Enforcement Operation (OBK) framework. These initiatives aim to strengthen on-ground surveillance, deterrence, and community involvement.

Monitoring and data collection continue at two designated MIKE (Monitoring the Illegal Killing of Elephants) sites, where drones, SMART Patrol tools, and the MIKE Online Database are used to track trends in elephant movements and threats.

Malaysia is also fostering research and development (R&D) through partnerships with local universities, supporting innovation such as the ELEfence project, which aims to develop new tools for mitigating human-elephant conflict. Furthermore, efforts are underway to promote safe elephant crossings at Transportation Linear Infrastructure (TLI) sites, including through engagement with relevant authorities and consultants on projects such as the East Coast Rail Link (ECRL).

Myanmar

Presenter: Dr. Zaw Min Oo, Assistant General Manager, Myanmar Timber Enterprise

Status of Wild elephants in Myanmar

Reliable baseline data on Myanmar's elephant population remains limited due to the country's vast forested landscape and monitoring constraints. According to expert estimations in 2021, Myanmar's wild elephant population ranges between 1,200 and 2,000 individuals, based on a combination of:

- Direct observations: include data collected from camera trap footage, records of HEC incidents, and sightings made during ranger patrols
- Indirect observations: involve hunter interview reports, documentation of elephant carcasses, and dung count surveys conducted along line transects at permanent sample plots in seven protected areas (PAs).

Myanmar has established several protected areas with the primary objective of conserving wild elephant populations, covering a combined area of approximately 9,961.88 square miles. These areas play a critical role in safeguarding elephant habitats, mitigating human–elephant conflict, and supporting biodiversity conservation in forested landscapes.

The largest of these is the Hukaung Valley Wildlife Sanctuary, established in 2004, which spans a vast 6,708 square miles and forms a key stronghold for elephant conservation. Htamanti Wildlife Sanctuary, one of the oldest, was designated in 1974 and covers 830.46 square miles. Even earlier, the Shwe-U-Daung Wildlife Sanctuary was established in 1927, although much smaller in size at 67.96 square miles, reflecting early efforts to protect wildlife.

The Alaungdaw Kathapa National Park, designated in 1989, adds another 541.62 square miles of protected land, combining ecological and cultural significance. Other dedicated elephant areas include the Rakhine Yoma Elephant Range (established in 2002, spanning 677.88 square miles) and the North

Zamari Elephant Protected Area, which was declared in 2014 and covers 379.59 square miles. The Tanintharyi Nature Reserve, established in 2005, contributes an additional 656.37 square miles to Myanmar's elephant conservation network.

Status of captive elephants in Myanmar

Myanmar holds one of the largest captive elephant populations in Asia, with elephants managed under both private ownership and state authority. As of the latest available data, a nationwide microchipping registration initiative conducted in 2020 recorded a total of 1,613 privately owned elephants. These elephants are typically used in traditional sectors such as logging, tourism, and ceremonial functions, and their management is subject to national regulations that require microchipping and identification for monitoring and welfare purposes.

In addition to privately owned elephants, a significantly larger number, 3,259 elephants, are under the custody of the Myanmar Timber Enterprise (MTE), a state-owned organization. This figure is based on the monthly registration maintained by the relevant government department as of December 2024. The MTE elephants are primarily used for timber extraction and patrolling forest areas, and their care, deployment, and tracking are managed through an internal documentation and welfare oversight system.

Together, these figures indicate that Myanmar currently manages a total of 4,872 captive elephants, making it one of the most elephant-reliant countries in both conservation and industry.

Main Elephant Conservation Issues in Myanmar

Elephant conservation faces a wide array of challenges, many of which are interconnected and require both immediate and long-term responses. One of the most pressing issues is habitat loss and degradation, driven by deforestation, land-use change, and infrastructure development. The fragmentation of elephant habitats not only limits their movement but also increases the frequency of encounters with human populations.

Another critical threat is poaching and illegal trade, particularly for ivory. Despite legal protections, elephants continue to be targeted by organized wildlife trafficking networks, often due to weak law enforcement and insufficient surveillance in remote areas.

- Human–Elephant Conflict: As elephants are forced to move through agricultural and settlement areas, conflicts with humans are escalating. These encounters often result in damage to crops and property, and sometimes lead to retaliatory killings.

- Weak Law Enforcement: Enforcement mechanisms are often under-resourced and inconsistent, limiting the effectiveness of protective regulations.

- Challenges in Captive Elephant Management: The management of captive elephants remains problematic, with ongoing issues related to breeding, veterinary care, welfare standards, and long-term planning. Many captive elephants are used in industries such as logging and tourism, and their future remains uncertain as these sectors evolve.

- Poor Community Engagement: Community participation in conservation is limited in many regions. Without local support and involvement, conservation initiatives often struggle to gain traction and sustainability.

- Limited Funding and Resources: Financial constraints impact nearly every aspect of elephant conservation, from the implementation of habitat protection measures to the scope of research and monitoring activities.

- Political Issues and Limited Will: A lack of prioritization at the policy level can hinder coordinated conservation efforts. Political instability or competing agendas often push wildlife conservation down the list of national concerns.

- Lack of Comprehensive Data and Research: Gaps in reliable population estimates, tracking of migration routes, and long-term monitoring programs make it difficult to formulate evidence-based strategies. Without strong scientific data, planning and policymaking remain reactive rather than proactive.

Main Threats and Elephant Mortality Causes

Elephants in both wild and captive settings face a range of complex and overlapping threats, many of which directly contribute to mortality and declining population health. The analysis below outlines the key challenges for each group:

Wild Elephants

- Habitat Loss and Fragmentation: Deforestation and the degradation of ecological corridors continue to be the most pressing threat to wild elephants. As natural habitats are cleared or fragmented, elephants lose access to vital foraging and migratory routes, increasing their vulnerability to conflict and isolation.

- Human–Elephant Conflict (HEC): Rising incidents of HEC result in injuries and fatalities for both humans and elephants. As elephants venture into farmland and settlements in search of food or water, retaliatory killings and accidental deaths are becoming more frequent.

- Poaching: Despite legal protections, elephants remain targets for poachers, particularly for ivory and other body parts. Inadequate enforcement and illegal wildlife trade networks exacerbate this threat.

- Improper Protection: Weak enforcement of conservation laws, limited patrolling, and under-resourced wildlife departments contribute to the ineffective protection of elephants in the wild.

- Climate Change: Changes in climate patterns affect the availability of water and food resources. Extended dry periods, altered vegetation patterns, and unpredictable rainfall increasingly stress elephant populations and lead to movement outside protected areas.

Captive Elephants

- Poor Healthcare Management: Many captive elephants suffer due to insufficient veterinary infrastructure, lack of trained personnel, and limited access to routine medical care.

- Lack of Research Activities: The absence of consistent, data-driven research on the health, behavior, and welfare of captive elephants hampers effective management and policy development.

- Disease: EEHV is a major concern for captive populations, especially young elephants. The disease often progresses rapidly and can be fatal if not diagnosed and treated early.

- Ageing: A significant portion of captive elephants are ageing, raising concerns about long-term care, specialized medical needs, and retirement strategies.

- Poor Facilities for Disease Diagnosis: Limited diagnostic capabilities result in delayed or inaccurate identification of illnesses, reducing the effectiveness of treatment and increasing mortality risk.

HEC Data

Between 2018–19 and 2022–23, a total of 17 human deaths and 37 elephant deaths due to unnatural causes were recorded, reflecting a sustained and troubling trend in human–elephant conflict across the monitored landscape. The data highlights poaching as a leading cause of elephant mortality, with additional contributions from electrocution and other unspecified causes.

In 2018–19, there were 3 human fatalities and 11 elephant deaths. The majority of elephant mortalities were attributed to poaching (8 deaths), with an additional 3 deaths listed under other causes, such as natural events or health-related complications. No deaths were reported from electrocution, train hits, road accidents, or poisoning.

In 2019–20, 2 people lost their lives due to HEC, and 6 elephants died unnaturally. Of these, 4 elephants were poached, and 1 death was reported under other causes. There were no instances of electrocution or infrastructure-related incidents.

In 2020–21, the number of human deaths rose again to 3, but elephant deaths dropped to just 2, marking the lowest during the five-year period. One of these elephants died due to electrocution, while the other was poached. No other causes were reported.

In 2021–22, 3 human deaths and 2 elephant deaths were recorded. While no poaching, electrocution, or other common causes were reported, 2 deaths were classified under other unspecified causes, which may include disease, stress-related complications, or natural accidents.

In 2022–23, 6 human deaths, he highest in the period,were reported. At the same time, elephant deaths surged to 16, the highest in five years. Of these, 10 elephants were poached, 1 died due to electrocution, and 5 were listed under other causes, making this year a clear peak in both human and elephant fatalities.

The data underscores poaching as the most persistent and dominant cause of elephant deaths, responsible for 24 out of 37 recorded fatalities across the five-year period. Electrocution caused 2

deaths, and 11 elephants died due to other unspecified causes, including likely factors such as disease, accidents, and stress from conflict or capture.

Wildlife Protocols and National Elephant Conservation Action Plan

Myanmar's National Elephant Conservation Action Plan outlines a comprehensive strategy to address the country's most pressing challenges in elephant conservation. These include habitat loss, HEC, poaching, illegal wildlife trade, and the welfare of captive elephants. The plan integrates policy, community engagement, enforcement, and scientific research to ensure both wild and semi-captive elephant populations are protected and sustainably managed.

Key focus areas of the action plan include:

- Habitat Protection and Restoration: Efforts are directed toward securing and rehabilitating critical elephant habitats to support healthy wild populations. These efforts also consider the needs of captive elephants by enhancing the quality of environments where they are housed, including timber camps and conservation centers.

- Conflict Mitigation: The plan emphasizes reducing HEC through proactive strategies such as community engagement, awareness programs, and conflict-prevention measures. These include early warning systems, safe fencing, and village-based intervention models aimed at reducing crop and property damage.

- Anti-Poaching and Illegal Trade Control: Strengthening law enforcement is a central component of the plan. It supports the development of wildlife crime units, increased patrols, and improved legal frameworks to address poaching and illegal trade in ivory and other elephant parts.

- Captive Elephant Management: With one of the largest populations of semi-captive elephants, particularly those under the Myanmar Timber Enterprise, the plan focuses on improving welfare, healthcare, income support for mahouts, and providing the necessary resources and training for responsible elephant care.

- Research and Monitoring: The action plan highlights the need for a strong scientific foundation by promoting research on elephant behavior, population dynamics, habitat use, and health. It supports systematic monitoring using tools like GPS collars, dung surveys, and carcass documentation to guide evidence-based decision-making.

- Community Involvement and Awareness: Local communities are seen as central partners in elephant conservation. The plan promotes mechanisms that ensure communities benefit from conservation activities, such as ecotourism or employment in ranger programs, while also raising awareness about the ecological and cultural importance of elephants.

Progress on the 2022 Kathmandu Declaration

Myanmar has initiated several efforts in line with the Kathmandu Declaration, including:

- Raising public awareness about elephant conservation and HEC mitigation

- Livelihood enhancement initiatives for communities near elephant habitats
- Improved enforcement to curb illegal killings and trade
- Monitoring and welfare improvements for captive elephants
- Maintaining international collaboration, including with CITES and ASEAN-WEN

However, significant challenges remain in implementing long-term conservation strategies, largely due to the lack of scientific information and technical capacity. Myanmar's government highlights the need for continued international cooperation and support to bridge these gaps.

Nepal

Presenter: Mr. Bed Kumar Dhakal, Deputy Director General, Department of National Parks and Wildlife Conservation, Ministry of Forests and Environment, Government of Nepal

Status of Wild Elephants in Nepal

Nepal is home to approximately 230 wild Asian elephants, primarily concentrated in the lowland Terai region, which supports both eastern and western subpopulations. This area serves as the country's principal elephant range and is characterized by a mix of forested landscapes, grasslands, and riverine ecosystems.

The Terai region spans a suitable elephant habitat of around 42,000 square kilometers, with approximately 45% of this area under forest cover. It includes six National Parks, one Wildlife Reserve, and one Conservation Area, forming a critical conservation network that provides core and buffer zones for elephant movement and survival. These protected areas are not only essential for elephants but also contribute to the conservation of a wide array of endangered flora and fauna, making the Terai one of Nepal's key biological hotspots.

The region also presents complex conservation challenges. Approximately 52% of Nepal's human population resides in the Terai, resulting in high land-use pressure, habitat fragmentation, and frequent human–elephant conflict. Expansion of agriculture, infrastructure development, and settlement growth continue to encroach upon elephant habitats, increasing the likelihood of conflict and limiting safe movement corridors.

Status of Captive Elephants in Nepal

Nepal is home to approximately 180 captive elephants, comprising both government-owned and privately owned individuals. These elephants play an important role in various sectors, including forest patrolling, anti-poaching operations, ecotourism, religious and cultural ceremonies, and occasionally research and education.

All government-owned captive elephants are registered and microchipped, in compliance with national wildlife regulations and CITES related provisions. These measures are designed to enhance traceability, monitoring, and welfare standards. The government also provides veterinary care, regular health monitoring, and capacity-building programs for elephant handlers (mahouts), focusing on improved husbandry practices and safety measures for both elephants and caretakers.

In contrast, the number of privately owned captive elephants has been gradually declining, a trend closely linked to the shrinking scope of ecotourism

Main Elephant Conservation Issues in Nepal

Nepal faces a range of conservation challenges for both its wild and captive elephant populations, shaped by environmental pressures, socio-political dynamics, and evolving land-use patterns.

Wild elephant conservation is increasingly complicated by habitat loss and fragmentation, driven by agricultural expansion, human settlement, and infrastructure development. These pressures reduce available habitat and force elephants into closer contact with human populations, resulting in rising incidents of human–elephant conflict (HEC), including retaliatory killings.

Other major issues affecting wild elephants include:

- Linear infrastructure development, such as roads and railways, which obstruct elephant movement and increase the risk of fatal collisions.
- Transboundary movement, particularly across the Nepal–India border, which necessitates coordinated conservation and monitoring efforts.
- Small and isolated elephant populations, which are at risk of genetic bottlenecks and reduced reproductive viability.
- Poaching and illegal wildlife trade, although not widespread, continue to pose a threat in some areas.
- Emerging diseases, EEHV and Elephant Tuberculosis (ETB), which have been detected in both wild and captive populations.
- Climate-related disasters, including droughts, floods, and wildfires, which further stress elephant habitats and resources.
- Inadequate funding, which limits the implementation of conservation strategies, habitat restoration, and monitoring programs.

Captive elephant management also presents several challenges:

- Scattered elephant posts and stables often exist in isolation, increasing the risk of conflict with wild bulls, especially during musth.
- A limited scope of tourism has affected the economic sustainability of maintaining captive elephants, particularly in the private sector.
- Animal rights concerns are growing, impacting public perception and influencing tourism choices.
- There are increasing demands for the transfer of ownership of private elephants, often due to the rising cost of upkeep and declining income opportunities.
- Government-run facilities face inadequate staffing and limited resources, affecting the quality of care and welfare standards provided to captive elephants.

Main Threats and Elephant Mortality Causes

Nepal’s wild and captive elephant populations face a range of interlinked threats, spanning ecological degradation, economic constraints, and emerging health risks. These challenges have led to both direct

elephant mortality and long-term concerns for the viability of elephant conservation efforts in the country.

Among wild populations, habitat encroachment and fragmentation remain primary threats. Expanding agricultural land, infrastructure development, and settlement growth have steadily reduced and divided elephant habitats, forcing elephants into close proximity with human communities. This has led to an increase in retaliatory killings, as communities respond to crop loss, property damage, or safety risks posed by elephants.

Other key threats include:

- Poaching, which, though less widespread, continues to occur in certain areas, particularly near border regions.
- Electrocution, often resulting from contact with unsafe electric fencing or exposed power lines used as deterrents in farming areas.

Captive elephant management in Nepal faces economic and health-related difficulties:

- A decline in tourism-related income has made the upkeep of elephants increasingly unsustainable, especially for private owners.
- Emerging diseases, such as EEHV and ETB, pose serious threats to elephant health, particularly among young and immuno-compromised individuals.
- The high costs of feeding, shelter, and veterinary care further strain both government-run facilities and private owners.

Elephant Mortality

Between 2018 and 2023, Nepal recorded at least 24 elephant deaths from unnatural causes:

- 14 elephants died due to electrocution, mostly in conflict-prone zones.
- 4 elephants were poached for ivory or other reasons.
- 6 elephants succumbed to severe injuries, likely caused by bullets or violent conflict-related trauma.

These patterns clearly illustrate that retaliatory killings, often in response to escalating human–elephant conflict, remain one of the most critical challenges for elephant conservation in Nepal.

HEC Data and Mitigation Measures

HEC remains one of Nepal's most pressing conservation challenges. From 2000 to 2020, an estimated 345 human fatalities were caused by elephants. HEC occurs both inside and outside protected areas, and its frequency has increased with time.

Between 2005/06 and 2024/25, Nepal recorded a total of 55 wild elephant deaths. While mortality remained low in the early years,often limited to isolated incidents,there has been a notable and concerning increase in reported deaths since 2018, with a clear upward trend observed especially after 2020.

In 2005/06, a single wild elephant death was recorded. This pattern of low mortality continued through 2008/09, 2012/13, 2013/14, 2014/15, 2015/16, 2016/17, and 2017/18, with just 1 death reported in each of these years. The only exception in this period was 2011/12, when 3 deaths were recorded.

The trend shifted significantly in 2018/19, when 9 wild elephants died, marking the first major spike in over a decade. This upward trajectory continued into 2019/20, which saw the highest number of wild elephant deaths recorded in a single year,12 deaths. These figures reflect growing human-elephant conflict and increasing pressure on elephant habitats due to land-use change and infrastructure development.

In 2021/22, the number of deaths dropped slightly to 4, but remained elevated compared to the pre-2018 average. The following year, 2022/23, saw a sharp rise again with 10 deaths, indicating that the factors driving elephant mortality,such as habitat fragmentation, conflict, and accidental or retaliatory killings,persist.

In 2023/24, 6 deaths were reported, showing a modest decline but still significantly higher than the long-term average. The most recent data from 2024/25 records 3 deaths, which, although lower than previous years, underscores a continued risk to elephant populations.

Nepal has developed and implemented a multi-tiered approach to mitigate human–elephant conflict (HEC), combining immediate responses, community engagement, and long-term conservation planning. These efforts aim to reduce the risk of conflict, ensure timely support to affected communities, and foster coexistence between humans and elephants.

Immediate Measures

- Elephant Removal Operations: Rapid response teams are deployed to safely remove elephants from settlements and agricultural fields during conflict incidents, reducing immediate threats to human life and property.
- Wildlife Damage Relief Guidelines: A government compensation framework provides up to NPR 1,000,000 (10 lakh) for human fatalities caused by elephant encounters.
- Comprehensive Relief Support: Relief packages cover human injuries, loss of life, damage to agricultural crops, property destruction, and food grain loss, ensuring affected families receive immediate support.
- Temporary Employment and Scholarships: Affected families may receive temporary jobs on a contract basis, and scholarships are provided to children from victim families, helping support livelihoods and future opportunities.

Intermediate Measures

- Community Awareness Campaigns: Local communities are engaged through education and awareness programs, emphasizing safe practices and elephant behavior to reduce conflict risks.
- Fencing Solutions: A range of fencing methods are used to deter elephant movement into human areas:
    - Concrete walls
    - Concrete with galvanized iron (GI) pipe
    - Solar and electric fencing

    - Bio-fencing using natural deterrents such as cactus and bamboo
- Alternative Cropping: Farmers are encouraged to adopt non-palatable or economically beneficial crops like mentha (mint), lemongrass, and chamomile, which are less attractive to elephants and offer alternative income sources.
- Income Generation Programs: Community-based initiatives such as women's savings and credit groups support alternative livelihoods to reduce dependency on high-conflict agricultural practices.

Long-Term Measures

- National Elephant Conservation Action Plan: Nepal implemented its first Elephant Conservation Action Plan (2009–2018) and is finalizing a revised version for 2024/025–2034/035, aligning future conservation efforts with emerging challenges and new strategies.
- Signage and Awareness Infrastructure: The installation of signposts, hoarding boards, and public signage in high-conflict zones helps inform communities and travelers about elephant movement and safety practices.
- Habitat Management and Restoration: Efforts are underway to restore degraded habitats, maintain corridors, and enhance food and water availability for wild elephants to discourage movement into human areas.
- Eco-Friendly Infrastructure Guidelines (2076 BS): Nepal has developed design standards for environmentally friendly infrastructure, including wildlife underpasses, overpasses, and connectivity features, to reduce landscape-level fragmentation and promote safe elephant movement.

Nepal has also prioritized scientific research on HEC, including the use of GPS collaring to monitor elephant movement patterns. These studies are essential for identifying high-conflict zones, understanding seasonal migration, and designing targeted interventions that enhance both human safety and elephant conservation.

Nepal engages in school-based awareness, plantation campaigns, and stakeholder meetings during observances such as World Environment Day, Wildlife Week, and Biodiversity Day.

Wildlife Protocols and National Elephant Conservation Action Plan

Nepal is finalizing its National Elephant Conservation Action Plan 2025/26–2035/36, with key features including:

- Draft guidelines for elephant population estimation
- Planned survey protocols for wild elephants
- Policies supporting corridor restoration, conflict reduction, and law enforcement
- Ongoing collaboration with India under a Memorandum of Understanding (MoU) which is nearing renewal

Nepal is also implementing the CITES MIKE Program with an existing site at Shuklaphanta National Park and a proposed extension to cover the entire western elephant landscape (Kanchanpur, Kailali, Bardiya, Banke districts).

Progress on the 2022 Kathmandu Declaration

Nepal has taken concrete steps to advance the priorities outlined in the 2022 Kathmandu Declaration, focusing on both wild and captive elephant management, conflict mitigation, and regional cooperation.

- A nationwide wild elephant population estimation is currently underway, aiming to establish a more accurate and updated baseline for conservation planning.
- The revised National Elephant Conservation Action Plan is in its final approval stage, reflecting updated strategies to align with emerging challenges, including habitat fragmentation and rising conflict incidents.
- All captive elephants have been registered and microchipped, ensuring traceability and compliance with national and international wildlife protection standards.
- A transboundary Memorandum of Understanding (MoU) with India on elephant conservation is under renewal, reinforcing the commitment to cross-border cooperation for monitoring and managing migratory elephant populations.
- Relief guidelines for HEC-related damages are already in place, covering compensation for human injury or death, property loss, crop damage, and food grain destruction.
- In addition to these core commitments, Nepal has embraced best practices to promote human–elephant coexistence, including:
- Use of non-lethal deterrents such as bio-fencing and noise-based methods
- Real-time tracking of elephants via GPS collaring to monitor movement and prevent conflict
- Infrastructure impact assessments to ensure that roads, railways, and development projects incorporate elephant-friendly design features

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Sri Lanka

Presenter: Mr. Prasantha L. Wimaladasa, Assistant Director, Department of Wildlife Conservation, Ministry of Environment, Sri Lanka

Status of Wild Asian Elephants in Sri Lanka

Sri Lanka is home to one of the largest populations of wild Asian elephants in South Asia. According to the 2011 islandwide elephant survey, conducted using the waterhole count method at 1,553 designated counting points, the country's wild elephant population was estimated at approximately 5,879 individuals. These elephants are distributed across a combination of Wildlife Protected Areas (PAs) and Forest PAs. However, there is substantial elephant movement outside protected zones, particularly into human-dominated landscapes, which has implications for both conservation planning and conflict management.

Recognizing the need for updated data, Sri Lanka completed a second national elephant survey in 2024. While the results are still being analyzed, this survey is expected to provide critical new insights into population trends, distribution shifts, and habitat use, especially in the context of increasing human-elephant conflict and habitat fragmentation. The findings will be instrumental in shaping national conservation strategies and informing the updated Elephant Conservation Action Plan.

Status of Captive Elephants in Sri Lanka

As of the latest records, Sri Lanka has a total of 184 captive elephants, with 97 housed in zoological institutions and 87 privately owned. These elephants are primarily used for religious processions, tourism, cultural events, and public exhibitions. The management and regulation of captive elephants fall under the Fauna and Flora Protection Ordinance (FFPO), which sets out legal requirements and welfare standards.

The regulatory framework for captive elephant registration is governed by Gazette No. 662/4 (1991) and the updated Regulation Gazette No. 2241/41 (2021). The registration process involves a structured protocol to ensure transparency and accountability:

- Submission of applications by owners, accompanied by relevant documentation verifying the elephant's origin, health, and use.
- Inspection and verification of the elephant and its living conditions by a designated committee.
- Final recommendation and issuance of permits by the Director General of the Department of Wildlife Conservation (DWC).

This regulatory process aims to standardize the ownership and welfare monitoring of captive elephants and reduce illegal trade or undocumented possession. The system also ensures that both public and private institutions are held accountable for the treatment and maintenance of the elephants in their care.

Main Elephant Conservation Issues in Sri Lanka

Elephant conservation in Sri Lanka faces a complex set of challenges that span both within protected areas and, more critically, across home ranges that extend beyond these protected zones. The interface between forested landscapes and agricultural areas has become a focal point for conflict and ecological disruption, intensifying the threats to both elephants and local communities.

A major concern is the rising incidence of HEC, particularly in regions where elephants move outside protected areas in search of food and water. These encounters often result in crop damage, property destruction, and sometimes fatalities, placing pressure on conservation authorities and communities alike.

Several additional factors contribute to the growing strain on elephant conservation:

- Major irrigation projects, which alter water flow and fragment habitats, disrupting traditional elephant movement routes.
- Loss of migratory corridors, reducing elephants' ability to access seasonal forage and water sources.
- The spread of invasive plant species, which degrade natural habitats and displace native vegetation critical for elephant diets.
- Conversion of traditional shifting cultivation systems into permanent agriculture, reducing the mosaic of forested patches elephants rely on.
- Unregulated cattle grazing within elephant habitats, leading to competition for food and water and further habitat degradation.
- Boundary fencing, while often installed to deter elephants from entering settlements, can block critical movement paths and inadvertently increase conflict by trapping elephants in isolated zones.

These threats are all amplified by ongoing land-use change and habitat fragmentation, especially near the edges of forests and agricultural zones.

Elephant Mortality Causes and HEC Data

Between 2018 and 2024, Sri Lanka recorded 957 human deaths and 1,379 wild elephant deaths due to unnatural causes. This seven-year period reflects a deepening human–elephant conflict (HEC) crisis, with rising fatalities on both sides. Elephants continue to face lethal threats primarily from electrocution, gunshot and explosive injuries, and transport-related collisions, while humans are increasingly caught in the crossfire of conflict as elephants venture beyond protected areas.

In 2018, 96 people and 174 elephants lost their lives due to HEC-related causes. Major contributors to elephant deaths included electrocution (38) and train collisions (16). There were also 3 poisonings, while 117 elephants were killed by gunshots (53) and explosives (64). No road-related or poaching deaths were reported.

In 2019, the numbers rose to 122 human deaths and 223 elephant deaths,the highest in the period for elephants. Elephant fatalities were caused by electrocution (41), train hits (8), and road kills (5). 16 elephants were poisoned, and gunshot/explosive deaths totaled 153 (79 + 74). 5 elephants were poached, highlighting the increasing threat from multiple sources.

In 2020, there were 112 human fatalities and 142 elephant deaths. Elephant mortality included electrocution (31), train hits (3), road hits (3), poisoning (8), and gunshot (43) and explosive-related deaths (54) totaling 97. 3 poaching cases were also reported.

In 2021, 142 people died in HEC incidents alongside 192 elephant deaths. Electrocution (66) was the leading cause, followed by train hits (6) and poisoning (4). Gunshots (46) and explosives (69) resulted in 115 elephant deaths, and 1 elephant was poached.

In 2022, 146 humans and 181 elephants were killed. Elephants died due to electrocution (50), train collisions (14), poisoning (1), and gunshot (58) and explosives (55),totaling 113. 3 poaching incidents occurred. Road kills were not reported.

In 2023, Sri Lanka recorded the highest number of human deaths (184) and 252 elephant deaths. Elephant fatalities included electrocution (72), train hits (24), poisoning (5), and gunshot (98) and explosives (52),a total of 150 deaths. 1 poaching case was reported. No road-related deaths were recorded.

In 2024, 155 humans and 215 elephants were killed. Elephant deaths were attributed to electrocution (56), train hits (11), poisoning (8), and gunshot (84) and explosive-related deaths (52), again totaling 136. 4 poaching cases were recorded, and no road kills were reported.

Sri Lanka has implemented several national-level efforts to address HEC:

- The HEC National Action Plan, developed through the Presidential Task Force (2020)
- HEC mitigation projects launched since 2015
- Habitat mapping to identify conflict hotspots
- Deployment of 60 GPS collars in 2024 to track elephant movements and inform conflict mitigation

- Focused infrastructure interventions, including the construction of underpasses for expressways and railway lines to ensure safe elephant crossings

Wildlife Protocols and National Elephant Conservation Action Plan

Sri Lanka has established a legal and policy framework to guide elephant conservation and human–elephant conflict (HEC) mitigation across the country. At the heart of this framework is the Elephant Conservation Policy (2006), which laid the foundation for long-term, science-based elephant management and protection.

In recognition of evolving challenges, including rising HEC and land-use change, a policy revision process was initiated in 2019 to update and strengthen the national approach. Building on this effort, the government has taken steps toward developing a National Elephant Conservation Action Plan, and a committee has been appointed by the Ministry to lead its formulation and stakeholder consultations.

Alongside policy development, Sri Lanka has implemented targeted HEC mitigation measures, supported by government-endorsed projects and technical guidelines. These include both community-level interventions and broader land-use planning efforts aimed at reducing conflict and ensuring the safety of both elephants and people.

These elephant-specific protocols are integrated into Sri Lanka's wider wildlife and habitat management strategies, coordinated by the Ministry of Environment and the Department of Wildlife Conservation (DWC). Together, they form a national conservation framework that seeks to balance ecological integrity with socio-economic realities in elephant range areas.

Progress on the 2022 Kathmandu Declaration

Sri Lanka has made notable progress in advancing the priorities of the 2022 Kathmandu Declaration:

- Implementation of the HEC National Action Plan across priority landscapes
- Completion of elephant distribution mapping
- Development of transportation infrastructure underpasses to reduce collisions and fragmentation
- Deployment of 60 GPS collars in 2024 for real-time monitoring and research
- Execution of a second national elephant survey in 2024 (data under analysis)

Initiatives

1. Forest Connectivity: Sri Lanka has taken steps to protect and reconnect critical elephant habitats. A Managed Elephant Range (MER) was declared in the Southern Region in 2022, designating a Special Conservation Area to improve landscape-level connectivity for elephant movement.

2. Elephant Corridors: Efforts to identify and preserve elephant corridors are ongoing. 5 out of 16 corridors have been studied so far to evaluate pre-movement patterns and connectivity. This is vital for ensuring genetic flow and reducing conflict in fragmented landscapes.

3. Information Management: Substantial progress has been made in understanding elephant movement and distribution:

- Elephant distribution mapping is complete
- 60 GPS collars have been mounted on both male and female elephants, supporting real-time monitoring and data-driven decision-making.

4. Public Awareness: Public outreach to mitigate HEC has scaled up, with consistent education programs rolled out over four years:

- 2021 – 110 programs
- 2022 – 70 programs
- 2023 – 40 programs
- 2024 – 75 programs planned

These efforts aim to build coexistence, reduce fear, and promote community engagement in elephant conservation.

5. Fencing and Maintenance:Sri Lanka has made significant investments in fencing infrastructure to manage conflict:

- 5,600 km of fences have been completed
- An additional 850 km are planned for completion

This includes erection, regular maintenance, and monitoring systems to ensure fences remain effective and safe for both people and elephants.

6. Elephant Rehabilitation Centres

To manage rogue elephants in a humane way, semi-wild holding facilities are being developed:

- One centre is operational in the North Central Region
- A second is under construction in the Southern Region

These centers aim to reduce lethal conflict management practices and rehabilitate high-conflict individuals.

7. Research on Elephants

Research efforts have expanded into genetics and health monitoring:

- Elephant genome mapping and DNA fingerprinting have been completed
- Body condition monitoring is ongoing, contributing to veterinary and welfare management strategies.

8. Coordination Committees

To ensure multi-level governance, coordinating committees have been established at district, divisional, and national levels. These are currently in the functional stage, helping streamline policy implementation and field-level coordination.

Thailand

Presenter: Dr. Somying Thunhikorn, Forestry Technical officer, Expert Level on Wildlife Conservation, DNP, Ministry of Natural Resources and Environment, Thailand

Status of Wild Asian Elephants in Thailand

Thailand has demonstrated significant progress in both the conservation and regulation of its wild and captive elephant populations. The management of wild elephants falls under the Department of National Parks, Wildlife and Plant Conservation, and is governed by the Wildlife Preservation and Protection Act B.E. 2562 (2019 CE), which provides the legal basis for wildlife protection and habitat conservation.

Thailand's wild elephant population has steadily increased over the decades, reflecting the effectiveness of protected area management, reintroduction programs, and scientific monitoring. As of 2023, the estimated wild population ranges between 4,013 and 4,422 individuals. This estimate is derived from a combination of direct counts, camera trap data, and DNA-based survey techniques, particularly in elephant reintroduction project areas.

Historical estimates highlight this positive population trend:

- 1991: ~1,975
- 2000: ~2,384
- 2004: ~3,000–3,500
- 2020: ~3,126–3,341
- 2023: ~4,013–4,422

Wild elephants in Thailand are found across 91 protected areas, comprising:

- 46 National Parks (NP)
- 36 Wildlife Sanctuaries (WS)
- 9 Non-Hunting Areas (NH)

These areas are part of 16 major forest complexes, which serve as ecological corridors and core habitats, facilitating elephant movement and reducing fragmentation risks.

Status of Captive Elephants in Thailand

As of 2023, Thailand recorded 3,944 captive elephants, an increase from 3,783 in 2016. Captive elephants are primarily used for tourism, cultural events, religious ceremonies, and in some cases, forest patrolling or labor. Their welfare and legal status are managed through a shared governance structure involving:

- The Department of Provincial Administration, which oversees registration and ownership
- The Department of Livestock Development, responsible for veterinary care and health monitoring

The key legal instruments guiding the management of captive elephants include:

- The Beast of Burden Act (1939) – which treats elephants used for labor and tourism as domestic animals
- The Animal Welfare Act (2014) – which outlines standards for care, housing, and treatment of animals, including elephants

Main Elephant Conservation Issues in Thailand

Thailand's elephant conservation landscape is shaped by three major challenges that affect both wild and captive populations:

- Habitat Fragmentation and Degradation: Expanding agricultural activities, infrastructure development, and land-use change have led to the fragmentation of natural elephant habitats. This disrupts migration routes and isolates populations, increasing the risk of genetic bottlenecks and resource scarcity.

- Human–Elephant Conflict: As elephants move beyond protected areas into human-dominated landscapes, particularly agricultural zones, incidents of crop raiding and property damage have escalated. These conflicts pose serious risks to both human safety and elephant survival, especially in fringe areas where land-use boundaries are blurred.

- Welfare Concerns for Captive Elephants: With a large population of elephants in tourism and ceremonial roles, concerns over the treatment, housing, and long-term care of captive elephants remain significant. Issues include overwork, limited access to natural environments, and inconsistent enforcement of welfare standards.

Main Threats and Elephant Mortality Causes

Approximately 40% of wild elephant deaths are linked to HEC. These include fatalities and injuries resulting from direct encounters with people, accidents during agricultural activities, and incidents involving barriers such as electric fences or roads.

For captive elephants, the leading causes of death are primarily attributed to disease and natural aging. Health-related issues, often exacerbated by limited access to veterinary care or unsuitable living conditions, remain a major concern in long-term captive management.

HEC Data and Response

From 2018 to 2023, Thailand reported a total of 116 human deaths and 51 elephant deaths due to unnatural causes, illustrating a steady rise in HEC across the country. The data reflects a troubling pattern of increasing fatalities on both sides, driven by a combination of direct encounters, infrastructure risks, and retaliatory actions.

In 2018–2019, 19 people were killed due to HEC incidents. During the same period, 7 elephants died unnaturally, with 4 deaths due to electrocution, 2 from poisoning, and 1 from shooting. There were no road-related or poaching deaths reported this year.

In 2019–2020, 22 human deaths and 7 elephant deaths were recorded. Elephant fatalities included 1 electrocution, 1 road hit, and 2 cases of poaching. Additionally, 3 elephants died due to trapping, noted under other causes.

In 2020–2021, the conflict escalated further with 24 human deaths and 10 elephant deaths. Elephants were killed by electrocution (4 deaths) and poaching (5 deaths), while 1 elephant was shot. No poisonings or road hits were recorded.

In 2021–2022, 24 people and 10 elephants died in conflict-related incidents. Electrocution (3 deaths) and road accidents (3 deaths) were major contributors, while 6 elephants were shot. No poaching or poisoning cases were reported.

In 2022–2023, human fatalities peaked at 27, while elephant deaths rose to 17, the highest recorded in this period. Elephant mortality included 6 electrocutions, 3 road hits, 2 poaching deaths, and 6 due to shooting and trapping.

Overall, electrocution accounted for 18 elephant deaths, making it the most consistent cause across the five-year span. Poaching (12 deaths) and shooting/trapping (17 deaths) also emerged as persistent threats, especially in the last two years. Road accidents (8 deaths) and poisoning (3 deaths) contributed to additional fatalities.

The upward trend in both human and elephant deaths indicates an intensifying HEC scenario, particularly in agricultural or semi-urban landscapes.

National Elephant Conservation Action Plan and Progress on 2022 Kathmandu Declaration

Thailand has taken significant steps toward strengthening its national elephant conservation framework. A draft National Elephant Action Plan has been developed and is currently under review by the National Elephant Conservation and Management Committee, the central body responsible for overseeing elephant policy and strategic direction.

On 5 April 2023, the committee approved six strategic pillars to guide the country's approach to HEC management, combining ecological, community-based, and institutional measures:

- Habitat Management: Improving and restoring elephant habitats to reduce the need for elephants to roam into human-dominated areas.

- Barrier Management: Enhancing the design, maintenance, and monitoring of physical barriers such as fences to safely limit elephant movement into conflict zones.

- Community Network and Rapid Response Team Development: Establishing trained local teams to respond quickly to conflict incidents and strengthen early warning systems.

- Compensation Schemes: Providing structured financial support to individuals and communities affected by elephant-related damages.

- Alternative Habitat Zones for Aggressive Elephants: Relocating high-conflict or aggressive elephants to designated areas to reduce risk while supporting their welfare.

- Elephant Population Control: Exploring humane methods for managing elephant population growth in areas facing ecological or social carrying capacity challenges.

Session II: Management of Elephant Corridors as Strategies for Minimising Impacts of Habitat Fragmentation

Session Chaired by Mr. Ramesh Pandey, Government of India, and Facilitated by Dr. Prajna P. Panda, Member, IUCN SSC AsESG

Session Presentation

The conservation of Asian elephants faces increasing pressure due to the rapid expansion of human activity across their range. With approximately 50,000 wild elephants now living in fragmented habitats amid 3.64 billion people across Asia, there is an urgent need to manage landscapes in a way that supports both human development and elephant survival. Habitat fragmentation,caused by agriculture, settlements, infrastructure projects such as highways, railways, and dams,disrupts traditional movement patterns and increases conflict between humans and elephants.

This session highlighted the role of elephant corridors as a strategic response to habitat fragmentation. It underscored the importance of maintaining landscape connectivity through ecological corridors, offering elephants safe passage between forest patches, facilitating genetic flow, and minimizing negative human-elephant interactions. Dr. Panda's presentation built a strong case for integrated land-use planning and corridor protection as essential tools for long-term elephant conservation.

Key Themes from the Presentation

Understanding Elephant Corridors

- Elephant corridors are defined as narrow strips of natural habitat that connect two or more larger forest areas historically used by elephants.
- They allow movement for foraging, access to breeding partners, dispersal of younger males, and ensure genetic viability.
- Corridors maintain both structural (physical linkage) and functional (ecological use) connectivity between habitats.

Even rare or seasonal elephant movements through corridors contribute significantly to population survival, especially by enabling genetic exchange and reducing inbreeding risks.

Not All Movements Are Corridors

- Elephant movement through human settlements or agricultural fields primarily for crop-raiding does not constitute a corridor.
- Arbitrary linear zones drawn on maps without ecological basis (e.g., 80 km long, 100 m wide) are not valid corridors.
- Effective corridors must be based on actual elephant usage and habitat requirements.

The Human-Elephant Conflict Context

- Human-elephant conflict is a major conservation and socio-political issue across Asia:
- Annual impact estimates:

    - 700–750 human deaths
    - 380–400 elephant deaths
    - Millions of hectares of crops damaged
    - Thousands of families affected

Corridors offer a long-term land-use solution, reducing the likelihood of elephants straying into human-dominated areas by preserving their natural routes. However, merely identifying a corridor is not sufficient,active protection, community engagement, and conflict-sensitive approaches are essential for success.

Technical Parameters of Corridors

- Width: Can be as narrow as 0.2–1.0 km, depending on the length and ecological context.
- Length: Varies from a few hundred meters to over 10 km.
- Functionality: Surgical interventions (targeted land-use changes) are often enough to restore corridor usability.

Corridors ensure access to diverse foraging areas, mating opportunities, and safer movement, thereby reducing vulnerability to ecological and climatic shocks.

Models for Securing Corridors

The presentation showcased various models adopted across India, which offer practical templates for securing corridors:

1. Government Acquisition Model

- Example: Kaniyanpura Corridor, Bandipur National Park, Karnataka.
- Identified in the early 1980s; connects Western and Eastern Ghats.
- Only 50 meters wide, yet used by hundreds of elephants.
- Land secured through government funding (Project Elephant); no human displacement involved.

2. Community Conservation Model

- Example: Siju-Rewak Corridor (Garo Green Spine), Meghalaya.
- Connects multiple protected areas including Balphakram NP and Rewak RF.
- Managed with support from local councils (Garo Hills Autonomous District Council).
- Also provides habitat to gibbons and other wildlife.

3. Private Purchase Model

- Example: Tirunelli–Kudrakote Corridor, Kerala.
- Secured through private rehabilitation initiatives.
- Illustrates the potential of citizen-led and NGO-supported conservation efforts.

Implementation Barriers and Threats

- Linear Infrastructure: Roads, railways, canals, powerlines disrupt corridor integrity.

- Encroachments: Settlements within or adjacent to corridors.
- Land Use Conflicts: Multiple stakeholders with varying claims and dependencies.
- Lack of Data: Incomplete information on land ownership, socio-economic status of communities, and legislative overlaps.

Pathways to Secure Corridors

Dr. Panda advocated for out-of-the-box solutions grounded in equity, fairness, and pragmatism:

- Government-led acquisition with incentives (e.g., land-for-land schemes).
- Community-conserved areas supported by payments for ecosystem services, including direct financial support and carbon credit schemes
- Private ownership models involving NGOs and civil society.
- Strengthening national legislation to incorporate corridor protection into environmental impact assessments and land-use policies.

Mandate of the 2022 Kathmandu Declaration

The commitments made in the Kathmandu Declaration:

- Maintain connectivity between elephant habitats.
- Integrate corridor protection into NECAPs and national planning frameworks.
- Promote sustainable, community-friendly land use to minimize conflict.
- Encourage adoption of national HEC mitigation strategies that prioritize corridor functionality.

Chair's Remarks

Mr. Ramesh Pandey emphasized that Asian elephants are wide-ranging, landscape-dependent species, and their conservation cannot be confined to isolated protected areas. He underscored the importance of adopting a landscape-level approach that reflects the ecological realities of elephant movement across territories shaped by expanding human populations and infrastructure development.

Mr. Ramesh Pandey (India) offering insights and reflections in response to the presentation on management of elephant corridors

He stressed that elephant corridors play a crucial role in maintaining seasonal movement, habitat access, and genetic exchange. These corridors can vary greatly in size and form, depending on geography, land use, and local elephant populations. In light of this, Mr. Pandey highlighted the need for a clear and practical definition of corridors that balances ecological validity with administrative feasibility.

Special attention was drawn to the challenges of managing transboundary elephant movements, such as those observed between India and Nepal, where differing jurisdictional, legal, and land-use contexts complicate coordinated conservation responses.

He concluded by posing key questions to guide range State deliberations:

- How should elephant corridors be defined to ensure both ecological integrity and policy implementability?
- What measures are in place in your country to promote landscape connectivity for elephants?
- Are there existing conservation models that inform these strategies?
- Is there a need to develop a statutory framework to formalize and secure long-term corridor conservation?

Discussion

With technical support from IUCN, **Bangladesh** identified 13 elephant corridors since 2016. However, three corridors have been destroyed due to illegal immigration and land occupation, leading to significant habitat loss. Encroachment remains a serious issue for the remaining corridors under protection and management. The country also faces complex challenges due to a high number of migratory elephants entering from neighbouring countries, particularly India.

Bhutan mentioned that elephant corridors are yet to be officially identified. There is an urgent need for data collection and mapping, especially to understand patterns of transboundary elephant movement from India to Bhutan, especially during the dry season. Bhutan has deployed camera traps and surveillance systems to monitor elephant movements, but rising human-elephant conflict in these areas remains a critical concern.

While several corridors are actively managed, **Cambodia** faces challenges in securing habitats within and around these corridors. A major threat arises from highways and other linear infrastructure projects cutting through protected areas. This highlights the pressing need for wildlife-friendly development planning, particularly in corridors located within conservation landscapes.

China has made progress in designing and implementing wildlife-friendly linear infrastructure to support corridor functionality. Policies have been introduced to support free movement of elephants, and ongoing upgrades are focused on securing existing and potential corridors. The government uses technological tools such as mapping applications to track elephant movement. Major conservation initiatives include national park development and rewilding programs. However, challenges persist due to rapid development and the need to balance ecological and human needs.

India is actively engaged in identifying, securing, and integrating elephant corridors within broader infrastructure development plans. The country has developed detailed guidelines to ensure that linear

infrastructure projects,such as roads, railways, and power lines,incorporate elephant movement mitigation measures. Specific corridors have been designed to facilitate elephant movement through road construction and ecological planning. However, despite progress, the lack of consistent legal recognition for elephant corridors,especially at the national level,remains a significant challenge, with some corridors only notified under state-level legislation.

Indonesia has made progress in identifying potential elephant corridors, though only a limited number have been assessed so far. Efforts are ongoing, and the country emphasizes the need for a refined and context-specific definition of elephant corridors to guide prioritization and management. A key recommendation was the creation of internationally recognized corridor naming systems, especially for transboundary corridors, to enhance coordination and awareness. Indonesia is also adhering to IUCN guidelines in its efforts to protect and secure corridor landscapes.

Lao PDR continues to face significant human-elephant conflict, primarily stemming from transboundary elephant movement from Thailand. The country is actively collaborating with China to establish joint protected areas, which may support future corridor identification and management. However, coordinated cross-border efforts are still in early stages.

Peninsular Malaysia has adopted a national policy for the management and protection of elephant corridors, with approximately 80% of elephant habitats already secured. Ongoing work focuses on improving corridor functionality and enforcement. However, fragmentation caused by plantation expansion and infrastructure development remains a major challenge. While legal mechanisms and strategic plans are in place, effective implementation and enforcement continue to face pressure from competing land-use demands.

Sabah Malaysia emphasized that while corridor identification is progressing, the real challenge lies in corridor management. The state is undertaking policy revisions, including changes in forest classification, with the aim of designating additional wildlife corridors. There is growing recognition that legal and policy frameworks must evolve to effectively secure and sustain these corridors.

Myanmar does not currently operate under a fixed definition of elephant corridors, but expressed interest in conducting further habitat assessments to better understand elephant movement and potential corridor routes. The country acknowledges the importance of scientific studies and ecological mapping to support future corridor identification and conservation planning.

Nepal has identified six major functional elephant corridors, which are currently managed by the Department of Forests. However, the country stressed the need for multi-agency collaboration, involving other relevant government departments, to enhance corridor governance. Nepal has also declared buffer zones alongside protected areas to further safeguard movement routes and advocated for more emphasis on wildlife-friendly linear infrastructure in future planning.

Sri Lanka has made significant efforts to identify and manage elephant corridors. Several corridors fall within designated protected areas or wildlife sanctuaries, and the government is working to relocate human settlements from critical corridors to reduce conflict and fragmentation. Ongoing efforts include monitoring movement patterns, identifying new routes, and studying the functionality of existing corridors to inform adaptive management strategies.

Thailand is currently in the process of identifying all elephant corridors across the country, with many of them located within forest areas. The government is exploring the concept of eco-corridors to foster coexistence between protected areas and large buffer zones, recognizing that these corridors support not only elephants but also other wide-ranging species such as tigers. Thailand emphasized the growing need to enhance corridor management, particularly through the implementation of wildlife-friendly linear infrastructure, including ecological overpasses and road designs that accommodate safe wildlife movement.

Conclusion

This session reaffirmed the central role of elephant corridors in minimizing habitat fragmentation and supporting coexistence in Asia's densely populated and infrastructure-heavy landscapes. With over 50,000 wild elephants sharing space with more than 3.6 billion people, ensuring landscape-level connectivity is critical,not only for elephant movement but for maintaining broader ecological balance. The presentation emphasized that while identifying elephant corridors is crucial, their management, legal protection, and integration into national land-use planning are equally vital.

Country interventions revealed diverse progress. India and Malaysia are embedding wildlife-friendly infrastructure in development policies, while Nepal and Sri Lanka reported functional corridors supported by forest departments. Indonesia and Bhutan stressed the need for updated definitions and ecological assessments. Transboundary elephant movement was highlighted by countries like Bhutan, Lao PDR, and Bangladesh, where coordination between nations remains an ongoing challenge. Technological innovations such as drones, AI-based mapping, and ecological overpasses are being explored in China and Thailand, showing promise for scalable solutions.

Chairperson Ramesh Pandey emphasized the need for a clearer, more inclusive definition of corridors that considers ecological, biological, and multi-species movement,not just elephants. He noted that statutory compliance models must be context-specific and not one-size-fits-all. The discussion also touched on the importance of transboundary coordination and the development of Integrated Wildlife Management Plans. A key recommendation was the formulation of a working paper on corridor management best practices,highlighting what can and cannot be done, and offering a shared roadmap for countries to follow.

The session concluded with strong consensus that protecting elephant corridors is not just a conservation goal,it is a governance, planning, and policy challenge that requires cross-sectoral collaboration. A coordinated, regionally supported strategy led by IUCN SSC AsESG will be essential to guide future action and ensure that connectivity becomes a core principle of elephant conservation in Asia.

Presentation underway on the session of management of elephant corridors.

Session III: Captive Elephant Management and Registration

Session Chaired by Dr. Zaw Min Oo, Government of Myanmar, and Facilitated by Mr. Adam Felts, Director CSS Asian Elephant and Member, IUCN SSC AsESG

Session Presentation

Captive elephants form an integral part of elephant conservation efforts across many Asian range countries, serving roles in tourism, religious ceremonies, forestry operations, and rehabilitation programs. However, the management of these elephants varies widely across countries, with significant differences in registration systems, welfare protocols, and oversight mechanisms,creating challenges for harmonized conservation strategies.

Mr. Adam Felts, Director CSS Asian Elephant and Member IUCN SSC AsESG, delivered a presentation on "Captive Elephants in Asian Range Countries." He underscored the urgent need for more unified, transparent, and science-based systems for registering, monitoring, rehabilitating, and caring for captive elephants.

The estimated captive elephant population across the 13 range countries stands between 12,678 and 13,334. In line with the 2022 Kathmandu Declaration, Mr. Felts emphasized the collective mandate to develop standardized registration programs rooted in scientific evidence,such as microchipping and DNA profiling,and ensure that cross-border movements comply with legal and welfare standards.
Captive elephants, found in temples, tourist venues, forest camps, and zoological institutions, present a complex mix of welfare, legal, and logistical concerns. As countries work to reconcile conservation priorities with cultural practices and livelihoods, there is a growing need for coordinated action. Mr. Felts' presentation offered insights into the diversity of captive elephant systems, highlighted country-level progress in data and technology use, and introduced existing international guidelines that can support improved welfare and, where appropriate, reintroduction into the wild.

Key Themes from the Presentation

1. Captive Elephant Population and the 2022 Kathmandu Declaration: The 2022 Kathmandu Declaration calls on range countries to:

- Develop and coordinate captive elephant registration programs.
- Integrate scientific tools such as microchipping and DNA profiling.
- Ensure cross-border movement complies with national and international regulations.

This collective goal reflects a move toward transparent, accountable, and legally compliant systems for managing captive elephants.

2. Registration and Data Systems: Progress in captive elephant registration has been uneven but noteworthy in some countries, particularly India. Tools and systems mentioned include:

- Gaj Soochna App (India)
- Microchipping and genetic database – Over 50% of India's captive elephants have had their genetics analyzed.

- Asian Elephant SAFE Registry – A platform to compile, standardize, and compare captive elephant data across countries.
- Elephant Recognition Tools – Technology-supported approaches to improve identification and tracking.

Such systems are vital for enforcement, welfare monitoring, and long-term management planning.

3. Rehabilitation, Orphanages, and Sanctuaries: With increasing numbers of orphaned elephants across the range, Mr. Felts noted the growing demand for rehabilitation and sanctuary spaces. However, establishing and managing such facilities face several challenges:

- Inadequate staffing and technical capacity
- Shortage of trained veterinary care professionals
- Insufficient medical and welfare infrastructure, particularly for elephants in musth
- Lack of funding for proper construction, enrichment programs, and safety measures

These gaps highlight the need for dedicated investments, staff training, and operational standards tailored to elephant-specific needs.

4. Elephant Reintroduction: Guidelines and Considerations: The presentation referred to the IUCN SSC AsESG Guidelines for the Rehabilitation of Captive Elephants (March 2005). These guidelines provide structured steps and decision-making frameworks for assessing the feasibility of reintroducing captive elephants into wild populations.

- Emphasize:
    - Individual health and behavioral suitability
    - Habitat capacity and protection
      Long-term post-release monitoring
- Promote reintroduction not as routine practice but as a carefully considered conservation option.

This approach aligns with broader conservation goals while safeguarding both animal welfare and ecological balance.

Mr. Adam Felts sharing insights on management and registration of captive elephants

Discussion

Bangladesh shared progress and ongoing challenges across several areas of elephant conservation. On captive elephant management, a national survey documented 96 captive elephants (42 males, 54 females), of which only 35 were officially licensed under the Wildlife (Conservation and Security) Act of 2012. Sixteen elephants are housed in government-managed safari parks,9 in Gazipur and 7 in Dulahazara,with additional individuals under private ownership or zoo care. Regulatory gaps persist, with unlicensed elephants raising concerns around welfare standards and oversight. In response, the government plans to establish a captive breeding and orphanage centre aimed at curbing unregistered ownership and eliminating black-market practices, with support from IUCN.

On habitat conservation, Bangladesh reported the identification of 13 elephant corridors since 2016. However, three have been lost due to illegal immigration and land occupation, and encroachment remains a persistent threat in the remaining corridors. The country also experiences significant pressure from migratory elephants, particularly from India and Myanmar, complicating corridor management and increasing conflict. These dynamics point to the urgent need for enhanced transboundary cooperation, improved enforcement mechanisms, and stronger community engagement in corridor protection and land-use planning.

Bhutan expressed a strong interest in learning from other countries' licensing and regulatory frameworks for captive elephants, citing rising concerns over unregulated individuals and the need for more formalized control mechanisms. Although Bhutan's captive elephant population is small, it plays a key role in conservation activities, forest patrolling, and mitigating human-elephant conflict. These elephants are primarily managed by forest divisions within protected areas. Royal Manas National Park (RMNP) currently houses five elephants (one male and four females), while Phibsoo Wildlife Sanctuary (PWS) manages four (one male and three females). Additionally, one elephant initially from PWS is now under the care of Jigme Wangchuck Sanctuary (JWS).

The origins of these elephants highlight the diverse pathways into captivity. Two were born in captivity, one was rescued as a wild orphan, another was rescued from a municipal drain, and one was captured from the wild and subsequently trained. Bhutan acknowledged the growing need to systematize oversight of such elephants, ensuring their management aligns with both national conservation goals and international welfare standards.

Cambodia reported that over 90% of its captive elephant population, comprising approximately 62 individuals, are held by indigenous communities in the eastern regions of the country. Many of these elephants are of advanced age, prompting the government to oppose captive breeding and instead promote rehabilitation and orphanage-based care models. To support oversight and welfare, Cambodia has implemented a robust microchipping-based licensing system for captive elephants, ensuring individual identification and regulatory control across management settings.

China hosts an estimated 200 captive Asian elephants, managed under a rigorous regulatory framework overseen by the National Forestry and Grassland Administration (NFGA). All captive facilities are required to meet national infrastructure standards, employ qualified veterinarians and caretakers, and provide legal documentation confirming the origin of each elephant. The use of microchipping is mandatory for traceability and health monitoring.

China shared that it has developed a scientifically managed captive breeding system, supported by veterinary protocols, disease control measures, and a combination of modern scientific techniques and traditional medicine practices. Captive elephant care is governed by a network of national and local policies, ensuring consistency and high standards of welfare. Additionally, China is investing in habitat transformation to further enhance captive management outcomes. All aspects of purchase, use, and international movement of captive elephants are tightly regulated and require NFGA approval, ensuring centralized oversight of the captive population.

India presented a comprehensive and evolving framework for the management and welfare of its 2,675 captive elephants, as recorded in the 2019 census. Of these, 1,821 are privately owned, with the remainder under Forest Department custody. Captive elephants in India are primarily associated with temples, private trusts, zoos, and forest camps, and fall under the purview of Project Elephant, a long-standing national initiative.

A key reform has been the introduction of nationwide DNA profiling, now a statutory requirement, to ensure scientific identification and tracking. The Gaj Soochna App serves as a centralized platform for real-time data management. While new elephant acquisitions in zoos are currently paused, the government is expanding the network of rehabilitation and orphanage centres.

India has also taken legal steps to strengthen governance. The recently notified Captive Elephant (Transfer or Transport) Rules, 2024, issued under Section 62 of the Wildlife Protection Act (WPA), 1972, regulate elephant movement within the country. Efforts are underway to build a Genetic Database of captive elephants to guide welfare interventions.

Additional measures include:

- Capacity-building workshops for mahouts and caretakers
- Regular health checks, training, and welfare audits

- Development of technical resources, including Caring for Elephants: Managing Health and Welfare in Captivity (2022) and Necropsy and Carcass Disposal of Asian Elephants (2023)

Indonesia recognizes captive elephant management as a high national priority, supported by a structured system of policies and tools. The country currently manages 406 registered captive elephants, identified through microchip-based registration and tracked via a studbook database. Standard operating procedures (SOPs) for registration, veterinary care, and welfare are in place, with health and treatment records managed through the Sehat Satli database.

A notable feature of Indonesia's approach is the multifunctional deployment of captive elephants through Conservation Response Units (CRUs) and Elephant Training Centres. These elephants are actively involved in a wide range of conservation activities, including habitat monitoring, HEC management, patrolling, ecotourism, public education, and breeding programs. This integrated model demonstrates how captive elephants contribute beyond confinement, engaging with field-level conservation and community outreach.

The country has also recorded 16 elephant births in captive settings between 2016 and 2020, highlighting ongoing reproductive success under ex situ conditions. However, Indonesia faces a growing concern: the declining number of experienced mahouts, with a lack of senior trainers on the ground. In response, the government plans to expand capacity-building efforts to strengthen its future workforce and ensure sustainable care and management of its captive elephant population.

Lao PDR currently has limited captive breeding activity, with active efforts primarily concentrated at the Elephant Conservation Center (ECC). While the country does not operate a nationwide breeding program, it expressed strong interest in developing one and acknowledged the need for technical expertise and infrastructure to establish effective captive care and breeding facilities.

The discussion also highlighted several critical challenges. Many private elephant camps were noted to suffer from substandard veterinary and welfare conditions, including inadequate nutritional support and limited access to trained veterinary personnel. Enforcement of care standards remains weak, undermining efforts to ensure consistent welfare across facilities. In light of these challenges, Lao PDR emphasized the need for capacity-building support,particularly in staff training, veterinary care, and regulatory oversight,to improve the quality and sustainability of captive elephant management in the country.

Peninsular Malaysia maintains a centralized and regulated framework for captive elephant care, overseen primarily by PERHILITAN (Department of Wildlife and National Parks). The country currently manages 82 captive elephants,22 males and 60 females,across a range of government-run conservation centers, state-linked sanctuaries, zoos, and private facilities. The National Elephant Conservation Center (NECC) holds the largest group, with 25 elephants, followed by other PERHILITAN-managed sites such as the Terengganu Elephant Conservation Center (9 elephants) and the Johor Elephant Sanctuary (4 elephants). The Keniyir Elephant Conservation Village, operated by the Terengganu State Government, houses 18 elephants.

Captive elephants are also held in facilities managed by local authorities and private entities, including A'Famosa Safari Wonderland, Zoo Taiping, Kemaman Zoo, Melaka Zoo, the National Zoo, and Johor

Zoo. All captive elephants are registered and microchipped, and ownership requires a special permit,ensuring traceability and legal compliance across all custodians. Peninsular Malaysia has established veterinary protocols and monitoring systems, and plans are underway to integrate DNA sampling into the registration process. The country is also investing in specialized mahout training programs to enhance long-term human resource capacity for elephant care and welfare management.

Sabah Malaysia reported that microchipping is not yet adopted for identifying captive elephants. Instead, keepers and caretakers use direct recognition and experience to manage individuals, a system that functions on a localized level but lacks the formal traceability provided by modern registration methods. The region has implemented a rescue and rehabilitation strategy focused on welfare, yet acknowledged that tracking and regulatory mechanisms could be significantly strengthened.

As of the latest data, 30 captive elephants are housed across three key facilities. The Lok Kawi Wildlife Park holds the largest group with 16 elephants (10 males, 6 females), followed by the Bornean Elephant Sanctuary with 8 (6 males, 2 females), and the Sepilok Orangutan Rehabilitation Centre, which manages 6 elephants (5 males, 1 female). These facilities contribute to rehabilitation, care, and public education efforts. Most captive elephants in Sabah are the result of rescue operations, involving orphaned juveniles, stranded or injured individuals, or elephants left behind due to human-elephant conflict. The current sex ratio, with a higher proportion of males, may present challenges for long-term welfare management and social housing. Sabah noted that broader conservation efforts for both wild and captive elephants face ongoing logistical and resource constraints.

While **Myanmar**'s conservation division primarily focuses on wild elephant protection, the country expressed interest in exploring community-centered captive elephant models, such as mini zoos. These facilities could serve as public awareness and education hubs, particularly in rural and urban fringe areas, promoting broader understanding of elephant conservation and care practices.

Myanmar holds one of the largest captive elephant populations in Asia, with management responsibilities split between private owners and the state-run Myanmar Timber Enterprise (MTE). A nationwide microchipping initiative in 2020 recorded 1,613 privately owned elephants, primarily engaged in traditional sectors such as logging, tourism, and ceremonial functions. These elephants are required to be microchipped and officially registered, in accordance with national welfare regulations.
In addition, 3,259 elephants are under the custody of MTE, as per the government's monthly records from December 2024. These elephants are primarily used in timber extraction and forest patrolling, with care and tracking managed through internal documentation and welfare oversight systems.

Nepal reaffirmed its long-standing policy banning the capture of wild elephants, in place for over 50 years, as a core principle of its elephant conservation strategy. The country currently manages approximately 180 captive elephants, comprising around 110 government-owned and 70 privately owned individuals. Of these, approximately 50 elephants are housed in breeding centers. The government is now planning to expand rehabilitation services to include elephants under private ownership, ensuring consistent care and oversight.

Captive elephants in Nepal serve in a variety of roles, including forest patrolling, anti-poaching efforts, ecotourism, cultural and religious ceremonies, and occasionally, research and education. All government-owned elephants are registered and microchipped, in line with national wildlife laws and

CITES provisions, which help improve traceability and welfare monitoring. The government provides veterinary care, routine health checks, and conducts capacity-building programs for mahouts, focused on safe handling, husbandry, and welfare standards. Conversely, the number of privately owned elephants has been declining, largely due to reduced demand from the ecotourism sector. Despite this trend, the government emphasized a strong commitment to maintaining high welfare standards across all sectors and to expanding inclusive care strategies for the entire captive elephant population.

Sri Lanka currently manages 184 captive elephants, with 87 privately owned and 97 housed in zoological institutions. These elephants are primarily used in religious processions, cultural events, tourism, and public exhibitions, reflecting their deep cultural significance and economic value. The management of captive elephants is governed under the Fauna and Flora Protection Ordinance (FFPO), which outlines legal provisions and welfare standards for ownership, care, and public display.

To strengthen oversight, the government introduced a dedicated guideline in 2021 for the management of captive elephants. This includes provisions on housing, handling, feeding, and veterinary care, and is intended to ensure compliance across both public and private custodians. Microchipping is used as a mandatory registration method, enabling traceability, monitoring, and consistent welfare assessments. Sri Lanka's system reflects a centralized regulatory approach, but ongoing attention is required to ensure that cultural use aligns with contemporary welfare expectations. The government's focus remains on improving legal compliance, institutional coordination, and welfare monitoring across all facilities housing captive elephants.

Thailand maintains one of the largest captive elephant populations in Asia, with 3,944 registered elephants as of 2023,up from 3,783 in 2016. These elephants are predominantly used in tourism, religious and cultural ceremonies, and, in some cases, for forest patrolling or labor. The management of captive elephants is overseen through a shared governance framework involving the Department of Provincial Administration, which handles registration and ownership, and the Department of Livestock Development, responsible for veterinary care and health monitoring.

Thailand reported a comprehensive registration system incorporating DNA profiling, microchipping, and photographic identification, ensuring robust mechanisms for traceability, legal accountability, and welfare oversight. These structured identification systems are viewed as central to maintaining transparency and long-term welfare standards. The country has also developed strong practices for rehabilitation and reintroduction of elephants into the wild, supported by regulatory and veterinary protocols. Thailand's approach reflects a coordinated effort to balance the cultural and economic role of captive elephants with evolving conservation and welfare priorities.

Conclusion

Session III underscored the growing importance of captive elephant management as a core component of Asian elephant conservation. As emphasized in the presentation by Mr. Adam Felts and supported by extensive country updates, many Range States are taking steps to strengthen registration systems, improve welfare standards, and develop rehabilitation infrastructure. These efforts reflect the priorities outlined in the Kathmandu Declaration, particularly around coordinated databases, microchipping, DNA profiling, and compliance with national and international regulations.

Countries such as India, Thailand, and Sri Lanka presented robust models of captive elephant registration, including the use of microchips, DNA profiling, and centralized databases. Other countries, like Cambodia, China, and Indonesia highlighted advancements in structured care systems, veterinary protocols, and staff capacity building. Meanwhile, Nepal and Myanmar emphasized efforts to expand rehabilitation centers and explore community-based or awareness-focused captive care models.
A shared challenge across countries remains the limited availability of trained mahouts, infrastructure gaps in orphan care, and the high cost of veterinary and welfare services. Several Range States expressed interest in sharing best practices and collaborating through platforms like AZA SAFE and the IUCN SSC AsESG.

In his summary, Chair Dr. Zaw Min Oo praised the innovations and commitment shown by countries. He emphasized that conservation efforts must address both wild and captive elephant populations, alongside the training and well-being of mahouts and frontline staff. He also encouraged countries already engaged in rehabilitation and release of elephants into the wild, i.e. Thailand, to share actionable guidance. Thailand responded by outlining their approach, which includes surveying suitable release areas and adopting a gradual release process focused on natural behavior rather than domestication.

Day 2

Session IV: Building an Asian Elephant Database: Lessons from MIKE and AED

Session Chaired by Mr. Chanthone Phothitay, Government of Lao PDR, and Facilitated by Dr. Mrigesh Kshatriya, Consultant to IUCN SSC AsESG

Session Presentation

Elephant conservation across Asia needs robust, science-based systems for tracking populations, identifying threats, and coordinating across countries. In this session, Dr. Kshatriya proposed the development of an Asian Elephant Database (AsED), informed by global experiences from MIKE (Monitoring the Illegal Killing of Elephants) and the African Elephant Database (AED). Both these databases are GIS-integrated and manage complex spatial and attribute data on elephants.

Key Points from the Presentation

Dr. Mrigesh Kshatriya presented on "Building an Asian Elephant Database," outlining how foundational structures and operational models from MIKE and AED could inform the design and development of AsED.

Learning from the MIKE Programme

- Operated under CITES, MIKE collects site-based data on elephant mortality to inform conservation and policy decisions.
- Implemented in 32 African and 13 Asian countries, it emphasizes ranger-based monitoring using standardized protocols.
- The data collected includes cause of death (poaching, natural, etc) , ivory status, and geographic location of carcasses.
- Hosted by UNEP, the MIKE database is a secure platform which features multilingual interfaces, data validation workflows, and interactive dashboards.

Structure of the African Elephant Database (AED)

- Developed by the IUCN African Elephant Specialist Group, AED is a GIS-integrated relational database using PostgreSQL and PostGIS.
- It integrates survey data, spatial coordinates, and metadata, with all maps referenced to the WGS84 coordinate system.
- Elephant counting data is categorized by reliability (A to E), from total counts to informed guesses.
- Population estimates are derived through:
    - Methodologically pooled survey data
    - Calculation of confidence intervals
    - Categorization as Definite, Probable, Possible, or Speculative
    - Adjustment for spatial overlaps, and aggregation at national and continental levels.
- AED is governed by:
    - A Data Review Taskforce (DRTF) for structuring and methodology
    - A Data Review Working Group (DRWG) to maintain data quality

- The AfESG providing strategic oversight

Recommendations for Developing the AsED

Dr. Kshatriya outlined key recommendations to guide the development of AsED:

- Alignment with Existing Frameworks: Ensure AsED is closely integrated with the Asian Elephant Action Plan, as well as CITES and IUCN SSC protocols.
- Database Schema Design: Build a structure that includes GIS layers, population survey data, metadata (such as site information, sample size, survey type, etc.), and other relevant ecological parameters.
- Institutional Coordination: Form task forces and technical working groups, modeled after AsED's governance, to ensure data consistency, quality, and collaboration across countries.
- Sustainable Resourcing: Secure long-term funding, technical support, and capacity-building for the maintenance and expansion of the database.

Key Questions Raised for Discussion

- What types of elephant-related data (e.g., population estimates and other related statistics, range maps, , are Range States willing and able to share?
- What would be the ideal frequency for data updates, and how should accessibility and permissions be managed?
- What are the main coordination and funding challenges in managing a regional, cross-border data system?
- Should the IUCN SSC AsESG lead the establishment and oversight of AsED, and what form should technical task forces take?

Dr. Mrigesh Kshatriya during his presentation on Elephant Databases

Discussion

Bangladesh shared that it has been documenting elephant populations since 1978, including data on resident, migratory, and captive elephants. Migratory elephants primarily move from India and Myanmar, though they remain within Bangladesh for most of the year. The country currently has 96

captive elephants. A new elephant conservation project has been initiated, and once it is approved and operational, Bangladesh aims to complete its national elephant database. While funding remains a challenge, steps are being taken to address this constraint. Bangladesh expressed openness to participating in the regional database initiative once national systems are strengthened.

Bhutan noted that it is in the early stages of elephant data collection and has already mapped elephant presence, but is not yet in a position to share the data publicly. However, there are no challenges or restrictions in terms of data sharing, and Bhutan affirmed its willingness to contribute to the Asian Elephant Database once the data is finalized and verified. A national task force is already in place to support this work, and the country is currently awaiting completion of ongoing surveys before proceeding further.

Cambodia shared that its National Elephant Conservation Action Plan is currently under development, and it is actively collaborating with the IUCN SSC AsESG. A national-level Asian Elephant Working Group is already in place, which will support coordination and data collection. Cambodia confirmed its willingness to share elephant data for regional collaboration and indicated a strong commitment to contributing to the development of the Asian Elephant Database (AsED).

China reported that it has already developed its own national Asian Elephant database, which serves as a comprehensive system for monitoring elephant populations and movements. While supportive of regional collaboration, China emphasized the importance of respecting national sovereignty and legal frameworks when it comes to data sharing. It proposed a tiered data security structure, advocating for:

- Adherence to scientific principles in database design,
- Clear communication and collaboration protocols with partners,
- Strong database security and compliance with national laws,
- Defined rules and responsibilities for data management by each country.

China supported the idea of a collaborative yet controlled international database, backed by long-term funding and governance mechanisms.

India referenced the 2022 Kathmandu Declaration, which prioritizes regional data sharing and collaboration. The country supports the establishment of national elephant databases but stressed the need for clarity on data sharing protocols and the avoidance of duplication with existing platforms such as MIKE and CITES. India conducts population estimation every five years, with data approved at the national level. While willing to share structured population data, India advised against creating a new cyclical data stream solely for AsED without consensus. The government emphasized expanding MIKE sites and incorporating them into a broader, integrated monitoring system, rather than developing overlapping structures.

Indonesia reported the existence of a national cloud-based elephant database, which is linked to national agencies and all provincial-level national parks. The system is already operational and manages data across multiple regions. However, Indonesia noted that data sharing is governed by strict national regulations, and any participation in a regional database would require a formal data-sharing agreement. The country is open to further discussions but emphasized the need to first clarify what specific types of data are being requested, and for what purpose.

Lao PDR stated that its estimated wild elephant population ranges between 300–400 individuals, and that efforts are underway to update and verify population figures. Lao PDR already contributes population data to the MIKE program, and expressed willingness to share this data with the Asian Elephant Database initiative, provided it aligns with existing commitments and structures.

Peninsular Malaysia noted that it maintains two MIKE sites, and regularly submits elephant monitoring reports online each year. These datasets can be made available to the Asian Elephant Database. Beyond MIKE, the country has its own internal database system, and emphasized the importance of a clear framework and guidance from IUCN. Malaysia suggested that the IUCN SSC AsESG develop standardized protocols and data-sharing guidelines, which would enable countries to prepare and submit structured reports based on existing data sources.

Sabah Malaysia shared that it maintains a dedicated elephant database, which includes demographic statistics and relevant records. The state is open to sharing data, but emphasized that all information must be verified and clarified internally before dissemination. Sabah expressed readiness to contribute statistical demographic data, while calling for clear guidelines to support structured data-sharing processes.

Myanmar maintains separate databases for wild and captive elephants, with detailed records available for both. The captive elephant database is currently being updated, and Myanmar expressed willingness to share this dataset with interested parties. However, access to wild elephant data is restricted, and government approval is required for any external sharing. Myanmar also noted significant funding challenges in maintaining and updating these databases, and called for support in overcoming these limitations.

Nepal stated that elephant-related data is published through annual reports, and includes details on demographics and poaching incidents. The country is prepared to share data on location and number of elephants in poaching sites, but not firsthand identity-specific information, due to security and ethical considerations. Nepal recommended that all data be shared through designated institutions, following formal protocols and permissions. In terms of frequency, annual updates were deemed most feasible. Nepal also shared that task forces and working groups are in place to review data-sharing feasibility, but highlighted bureaucratic and funding challenges, particularly regarding the receipt of direct external funding, which requires multiple levels of government approval.

Sri Lanka shared that it has two active MIKE sites and updates elephant-related data annually. The country also maintains region-wise data on Asian elephants and is willing to share information, provided there is clarity on what specific data is being requested. Sri Lanka emphasized the importance of adhering to national data-sharing protocols and suggested that the frequency of reporting should be standardized across Range States,whether that be every six months, annually, or biennially.

Thailand confirmed its willingness to share data on elephant numbers and distribution, along with updates on mortality rates and other key indicators. However, the country stressed the importance of data specificity and security, noting that data-sharing requests should clearly define what types of information are required. Ensuring controlled and transparent access will be essential for Thailand's participation in the regional database.

Vietnam reported that it has an approved National Elephant Conservation Action Plan and has already begun data collection and refinement at the national level. Vietnam expressed readiness to share public data related to population size and distribution. For reporting frequency, the country suggested a 2–5 year interval would be appropriate, allowing sufficient time for data accuracy and validation. Vietnam emphasized the need to align data-sharing efforts with existing national conservation frameworks.

Conclusion

The session reflected broad willingness among Range States to contribute to an Asian Elephant Database, especially with regard to population demographics and distribution data. However, many countries emphasized the importance of data security, respect for national sovereignty, and compliance with existing protocols. Several participants flagged funding limitations and called for clarity on data-sharing formats, frequency, and governance mechanisms.

Countries also cautioned against duplicating efforts, noting that data is already shared through platforms like MIKE and CITES. There was strong consensus that AsED should be complementary, not redundant, and should address a broader scope of conservation data, beyond poaching.

National task forces and working groups were suggested as suitable platforms to coordinate structured data contributions. Clear communication, standardized protocols, and robust security systems will be vital to building trust and ensuring participation.

AsESG Chair Vivek Menon emphasized that security protocols and database duplication remain key concerns. He requested the presenter to elaborate further on data protection measures to help build confidence among Range States. He also noted that MIKE captures only poaching data, whereas AsED aspires to cover a wider range of information critical for effective elephant conservation.

Session V: Funding Support for Asian Elephant Conservation

Session Chaired by Mr. Mohd Soffian bin Abu Bakar, Government of Sabah Malaysia, and Facilitated by Mr. Adam Felts, Director CSS Asian Elephant and Member IUCN SSC AsESG

Session Presentation

Securing adequate and sustained funding remains one of the most persistent challenges for Asian elephant conservation across Range States. In this session, Mr. Adam Felts presented on "Funding Support for Asian Elephant Conservation," highlighting key structural issues, existing mechanisms, and the potential for a collaborative funding framework to support long-term conservation goals.

Key Points from the Presentation

Competing Priorities

- Governments must navigate tensions between conservation and development, balancing ecological protection with human needs.
- Effective funding strategies require alignment across policy frameworks, legal instruments, community priorities, and landscape-level planning.
- Conservation success hinges on locally grounded solutions, particularly those that integrate community protection and stewardship.

Existing Funding Sources

- Foundations: Support targeted projects and strategic conservation initiatives.
- Government agencies: Provide core funding and policy-level backing.
- Zoological institutions: Offer both financial support and technical expertise.
- Tourism: Emerging as a viable funding avenue through eco-tourism and awareness generation.

The 2022 Kathmandu Declaration:

Range States collectively committed to initiating an Asian Elephant Fund. The fund is envisioned to be housed under the IUCN SSC AsESG, serving as a coordinated resource to support national and regional conservation needs.

Key Questions for Delegates

- Are funding strategies integrated into your National Elephant Conservation Action Plans (NECAPs)?
- Do these plans include cost estimates and identified funding sources?
- Are there communication strategies in place to raise awareness and attract funding?
- What is your country's view on contributing to or benefiting from a joint Range State Asian Elephant Fund?

Discussion

Bangladesh emphasized that funding remains a critical constraint despite having a detailed funding strategy included in its National Elephant Conservation Action Plan (2018–2027). The plan outlines a need for approximately USD 20 million to support various conservation programs. However,

implementation has been hindered due to funding shortages. Bangladesh noted that the government has recently shown increased interest in co-financing conservation efforts, but acknowledged that the struggle to secure sustained funding remains a significant challenge.

Bhutan reported that its NECAP includes funding strategies, but financial limitations have impeded full implementation. The country is actively seeking external funding sources to support the execution of priority conservation actions. Bhutan underscored that additional funding would enable broader implementation and help address critical gaps.

Cambodia confirmed that its action plan integrates funding strategies, including specific allocations for communication and awareness-building activities. In the field, NGOs and nonprofit partners have played a significant role in supporting elephant surveys and conservation interventions. Cambodia's model illustrates a blend of state and civil society investment in conservation funding.

China reported substantial government investment in elephant conservation, including funding for scientific research, habitat restoration, and early warning systems that facilitate the natural movement of elephants. China is also collaborating with Lao PDR to establish joint protected areas. The country highlighted ongoing regional and international collaborations and proposed further exploration of multilateral platforms to mobilize additional resources and funding opportunities.

India noted that while there is no dedicated National Elephant Conservation Action Plan in place, elephant conservation is supported under the long-running Project Elephant, initiated in 1992 and now merged with Project Tiger. The Indian government allocates approximately INR 300 crores annually to this initiative, supplemented by state-specific funds designated for elephants. While there is currently no active proposal for a joint Asian Elephant Fund, India emphasized the value of regional cooperation and noted existing bilateral conservation frameworks with neighboring Range States. India expressed openness to enhanced collaboration moving forward.

Indonesia confirmed the existence of a dedicated national funding mechanism for elephant conservation. However, the country acknowledged ongoing funding challenges and emphasized the need to explore innovative financing models, such as "elephant bonds", to diversify and strengthen conservation funding streams.

Lao PDR shared that its National Elephant Conservation Action Plan is operational and receives support from international partners, including WWF and MIKE (Monitoring the Illegal Killing of Elephants), particularly in the areas of data collection and monitoring. However, the country highlighted the need for additional resources and technical support to strengthen conservation implementation and outreach.

Peninsular Malaysia receives core support through its national Five-Year Plans, but also actively seeks additional funding through external channels. The Department of Wildlife proactively applies for support from various conservation-oriented projects, and for the next planning cycle, Malaysia aims to secure a specific budget allocation for Asian elephant conservation. The government is also advocating for contributions from industries, especially the palm oil sector, to support conservation financing. Strong NGO partnerships continue to bolster Malaysia's national efforts.

Sabah Malaysia reported receiving multiple small grants from NGOs, corporations, and other non-state actors. These funds help support a variety of conservation activities and operational management efforts. While these contributions are critical, funding is typically short-term and project-specific, highlighting the need for more predictable and sustained financial support.

Myanmar has incorporated funding strategies within its National Elephant Conservation Action Plan (NECAP), including separate allocations for wild and captive elephant programs. Government funding currently supports various initiatives, such as habitat restoration and population management. In 2019, Myanmar organized one of the country's largest public fundraising campaigns for wild elephant conservation, which also served as a national awareness event. However, in recent years, Myanmar has become heavily reliant on the national budget, as external funding sources have declined, presenting ongoing challenges in sustaining long-term programs.

Nepal is finalizing its second 10-year Elephant Conservation Action Plan, with detailed programs and cost estimates included. In addition to government resources, Nepal works closely with conservation NGOs for financial and technical support. However, critical activities such as land acquisition and voluntary relocation of forest-settled communities remain unfunded in existing plans. Nepal acknowledged that a Range State Elephant Fund could help address such funding gaps. While a dedicated communications strategy is not in place, the plan includes mechanisms for stakeholder coordination and collaboration.

Sri Lanka does not yet have a NECAP but implements a Human-Elephant Conflict (HEC) Action Plan, which covers both wildlife protection and community-based initiatives. The plan identifies short-, medium-, and long-term projects, which are financed through annual treasury allocations and funds generated via tourism-related activities under the Wildlife Protection Fund. Additional support is provided through cross-sectoral collaboration, with agencies like the departments of agriculture and irrigation contributing funding for activities such as electric fencing and conflict mitigation infrastructure.

Thailand recently completed the draft of its National Elephant Conservation Action Plan (NECAP). However, the plan does not yet include detailed funding strategies. Moving forward, Thailand intends to engage multiple stakeholders, including government departments, NGOs, and civil society, to support implementation. At present, elephant conservation activities are funded through government support, and Thailand is exploring ways to expand its financing model to accommodate the full scope of the NECAP.

Vietnam has developed comprehensive action plans for both wild and captive elephants, which include defined funding strategies. These plans rely on stakeholder contributions, where funds raised by partners and NGOs are submitted to the government for implementation. Vietnam also has a communication strategy to mobilize funding, including initiatives such as Elephant Conservation Week, which brings together government agencies, funding organizations, international partners, and the public. Vietnam expressed strong interest in the proposed Asian Elephant Fund, stating that such a mechanism would enable it to scale up conservation efforts and bridge existing funding gaps.

Conclusion

The session highlighted a shared recognition among Range States that while many have included funding strategies in their conservation plans, securing long-term, sustainable financing remains a key challenge. Countries like Bangladesh, Bhutan, and Nepal stressed that despite identifying funding needs, implementation is constrained by limited resources. Others, including Cambodia, China, and Malaysia, offered examples of mobilizing funds through NGO partnerships, industry contributions, and regional cooperation. Countries including India and Myanmar indicated that their primary conservation financing still comes from government budgets, yet emphasized the growing importance of external support and cross-border collaboration.

There was strong support for the establishment of a dedicated Asian Elephant Fund, envisioned as a collective platform to address funding gaps and promote regional solidarity. The session also underscored the importance of communication strategies, stakeholder engagement, and cross-sector partnerships to improve fundraising outcomes.

Overall, the discussion reaffirmed that predictable financial support, paired with coordinated regional action, is essential for advancing Asian elephant conservation goals across the Range States.

Mr. Adam Felts sharing insights during the session of Funding Support for Asian Elephant Conservation

Session VI: National Elephant Conservation Action Plans (NECAPs) and Range-wide Planning

Session Chaired by Mr. Vivek Menon, Chair IUCN SSC AsESG, and Facilitated by Dr. Prajna P. Panda, Programme Manager and Member IUCN SSC AsESG.

Session Presentation

National Elephant Conservation Action Plans (NECAPs) serve as essential frameworks for guiding country-specific strategies to protect and manage Asian elephant populations. Designed to address a wide range of conservation challenges,including habitat loss, human-elephant conflict, poaching, and the welfare of captive elephants,NECAPs reflect national priorities while supporting broader regional coordination efforts.

This session provided an overview of the current status and recent progress in NECAP development across Asian elephant range countries. It also outlined the technical support offered by the IUCN SSC AsESG and introduced the proposed framework for a Range-wide Asian Elephant Action Plan. Drawing inspiration from the African Elephant Action Plan, the session emphasized the value of shared vision, strategic alignment, and collective implementation for effective elephant conservation across Asia.

Key Highlights from the Presentation

Purpose of NECAP: NECAPs are not only about ensuring the survival of the species, but also about providing a structured response to national-level conservation challenges. These include mitigating human-elephant conflict, addressing habitat degradation, combating poaching, and ensuring sustainable elephant management.

As of 2022, only six Asian elephant Range States had NECAPs in place:

1. Bhutan
2. Lao People's Democratic Republic
3. Sabah Malaysia
4. Myanmar
5. Bangladesh
6. Indonesia

These plans were compiled into *Action Elephant Volume 1*, released at the 11th AsESG meeting in March 2023, India.

Recent Progress: Following consultations with range countries, three additional NECAPs have been finalized and approved by governments:

1. Peninsular Malaysia (2023)
2. Indonesia (updated 2023)
3. Vietnam (2024)

NECAPs are currently being developed or updated in:

1. China
2. India

3. Nepal (10-year NECAP finalized, pending approval)
4. Sri Lanka
5. Thailand

Support from the AsESG: Range States were invited to reach out for technical assistance or collaborative support from the IUCN SSC AsESG in the preparation or revision of their NECAPs. The group expressed full willingness to provide technical guidance, expert review, and strategic collaboration as needed.

Toward a Range-wide Asian Elephant Action Plan: Building on the 2022 Kathmandu Declaration, the AsESG is initiating the development of a Range-wide Asian Elephant Action Plan, inspired by the African Elephant Action Plan. The African model also includes a dedicated African Elephant Fund for coordinated implementation, an idea being explored for Asia as well.

Proposed Framework for the Range-wide Plan: A preliminary structure for the range-wide plan was developed and opened for the inputs from the range countries, identifying four major chapters based on commonalities across existing NECAPs:

1. Introduction: Includes background, conservation status, significance, threats and challenges, legislative frameworks, and management of captive elephants.
2. Vision, Goals, and Objectives: Outlines a shared vision and measurable goals for elephant conservation across Asia.
3. Opportunities in Elephant conservation: Explores relevant national and IUCN policies, institutional mechanisms, and opportunities for stakeholder partnerships and cross-country collaboration.
4. Implementation and Monitoring,: Provides detailed implementation pathways, monitoring strategies, roles and responsibilities and timelines.

Dedicated Working Group for Support: A small, expert-led working group within the AsESG has been established to support Range States in both the development of their NECAPs and in contributing to the regional plan. This group promotes consistency, peer learning, and shared standards across national efforts.

Discussion

Bangladesh shared that its National Elephant Conservation Action Plan identifies few key focus areas such human-elephant conflict (HEC), habitat loss and security, protection and regulation, research and knowledge development, and capacity development. Under each thematic area, a range of targeted programs has been outlined. The action plan is comprehensive, including detailed provisions for funding, collaboration with research and conservation partners, and stakeholder engagement strategies.

Bhutan noted that while a NECAP is in place, implementation has been significantly hindered by funding limitations. The government emphasized that financial support is urgently needed to operationalize the plan. One specific challenge highlighted was the inability to compensate families in cases of human fatalities caused by elephants,a gap that underscores the need for external support to fulfill core responsibilities under the plan.

Cambodia reported that its NECAP addresses nearly all recommended components, including vision, objectives, and implementation strategies. The country maintains multiple policy documents: a strategy plan outlining overarching goals and a detailed action plan built around six identified priority issues. These include habitat loss, connectivity improvement, law enforcement, elephant capture, and human-elephant conflict. Cambodia is currently moving forward with implementation planning based on this strategic framework.

China reported that while it does not yet have a finalized National Elephant Conservation Action Plan, work is actively underway. The country is in the process of developing its NECAP, including translating draft materials and designing a framework tailored to China's context. The emerging plan focuses on the legal and scientific management of elephant populations and is being structured somewhat differently from other NECAPs to reflect national priorities and management approaches.

India shared that it currently operates under a comprehensive National Wildlife Action Plan that covers all species, including elephants. However, recognizing the need for more focused strategies, the government has initiated steps to develop regional-level action plans specifically targeting human-elephant conflict. Consultations and stakeholder meetings have already been conducted for this purpose. These regional plans are seen as the foundation for a future National Elephant Conservation Action Plan, which may be developed after gaining implementation experience and insights at the regional scale.

Indonesia confirmed that its updated National Elephant Conservation Action Plan is at its final stage. Completion is pending a few remaining assessments, particularly concerning the Sumatran elephant. In parallel, the government is drafting new regulations to support the implementation of the NECAP once finalized.

Lao PDR reported that it already has a National Elephant Conservation Action Plan in place. The plan comprehensively addresses key conservation issues including human-elephant conflict, habitat encroachment, crop raiding, and landscape fragmentation. It also includes an assessment of elephant demographics to inform targeted conservation actions.

Peninsular Malaysia reported that its second National Elephant Conservation Action Plan (NECAP 2.0) was published in 2023 and is currently under implementation. The country recommended incorporating transboundary conservation issues into future regional frameworks. It also suggested that principles of coexistence and best management practices be included to guide implementation at the interface between elephants and human settlements. Overall, Malaysia expressed satisfaction with the existing NECAP structure and endorsed its continued use.

Sabah Malaysia shared that its NECAP is currently under review. One notable gap identified in the existing plan is the absence of guidance on wildlife-friendly linear infrastructure, which is a pressing issue in Sabah due to ongoing development projects. Addressing infrastructure challenges was highlighted as an important priority for future revisions of the plan.

Myanmar confirmed the existence of a Myanmar Elephant Action Plan. However, the country noted challenges in fully operationalizing the plan, particularly due to regulatory and legislative constraints

that affect the formation of conservation committees. While the government welcomes both the NECAP approach and the proposed Range-wide Asian Elephant Action Plan, any new initiative would require official government endorsement and formal processes to determine participation, including expert involvement. Myanmar also emphasized the importance of including content on captive elephant management, especially for countries with large captive populations,a theme already covered in Myanmar's current NECAP.

Nepal reflected on the experience of implementing its first 10-year NECAP (2009–2019), which included provisions for protected area management. However, the main challenge has been implementation in areas outside protected zones, such as elephant corridors. Based on a review of its previous plan, Nepal found that it did not adequately address human-elephant conflict, and therefore, its forthcoming NECAP will include dedicated chapters on this issue. Nepal also recommended including a small chapter in future plans for reviewing and learning from past action plans. The country expressed readiness to collaborate with the IUCN expert team during the implementation phase of the new plan.

Sri Lanka reported that the preparation of its National Elephant Conservation Action Plan had been delayed due to ministerial changes but is now actively underway. The plan will include dedicated components on the management of captive elephants and the implementation of Human-Elephant Conflict (HEC) guidelines. Sri Lanka is also assessing how elephant presence affects local communities and how communities might benefit through tourism-related activities. The NECAP will include a chapter on strategies to release problem elephants back into the wild, as well as mechanisms for local engagement. The country has already put in place a decentralized compensation system and an implementation structure involving multiple stakeholders, including conservation partners and non-governmental organizations. The plan is expected to be finalized by 2025.

Thailand informed that its draft National Elephant Conservation Action Plan has been submitted to the national committee for approval. The country echoed earlier comments regarding the importance of addressing captive elephant management as a standalone chapter. Thailand also suggested that monitoring should be addressed in the final chapter of the NECAP, while implementation should be presented as a separate and dedicated section.

Vietnam fully supported Thailand's suggestions and emphasized the need to structure the NECAP into distinct chapters, including separate sections on captive elephant management, threats and challenges, and implementation and monitoring. The country advocated for a clear and modular approach to the action plan to ensure focused and effective delivery of conservation goals.

Conclusion

The session on National Elephant Conservation Action Plans (NECAPs) and Range-wide Planning reflected both momentum and gaps in Asian elephant conservation across Range States. Presentations by the IUCN SSC AsESG highlighted NECAPs as essential tools for addressing habitat loss, human-elephant conflict, poaching, and the management of wild and captive elephants.

Countries such as Peninsular Malaysia, Vietnam, and Indonesia reported newly approved NECAPs, while Nepal, Sri Lanka, and Thailand are finalizing drafts. China and India, though without formal NECAPs, described national efforts moving in that direction. There was broad consensus on the

importance of including dedicated chapters on captive elephant management, monitoring, and implementation.

Challenges persist, particularly regarding implementation outside protected areas and the need for mechanisms to review and update NECAPs. Several countries expressed strong interest in technical assistance from AsESG and supported the development of a Range-wide Asian Elephant Action Plan, inspired by the African model, to foster alignment, collaboration, and funding coordination.

The session concluded with a shared commitment to treating NECAPs as living, adaptive frameworks, and advancing toward a unified regional strategy grounded in local realities and collective ambition to safeguard the Asian elephant.

IUCN SSC AsESG Chair Mr. Vivek Menon summarising the country discussions after the session on NECAP

Session VII: Strategies and Best Practices for Managing Human-Elephant Conflict (HEC)

Session Chaired by Mr. Salman bin Sabaan, Government of Malaysia, and Facilitated by Prof. Alexandra Zimmermann, Member IUCN SSC AsESG.

Session Presentation

Human-elephant conflict (HEC) remains one of the most critical and complex challenges in Asian elephant conservation. Present across all range countries, HEC threatens not only the survival of elephant populations but also significantly disrupts human lives and livelihoods. Addressing this challenge requires science-based, context-specific, and socially sensitive solutions that go beyond physical damage mitigation to foster long-term coexistence.

Prof. Alexandra Zimmermann's presentation provided a comprehensive overview of the evolving understanding of human-wildlife conflict, with a particular focus on regional HEC dynamics and the development of the IUCN SSC Guidelines on Human-Elephant Conflict and Coexistence in Asia. Her presentation was grounded in both global perspectives and practical realities faced by countries across Asia.

Key Themes from the Presentation

A Multi-Level Understanding of Conflict: Prof. Zimmermann introduced a three-tier model to illustrate the complexity of human-wildlife conflict:

- Surface-level disputes – involving practical issues like crop loss, property damage, or injury.
- Deeper conflicts – rooted in recurring tensions or unresolved grievances.
- Fundamental divisions – linked to perceived threats to social identity, values, or long-standing distrust.

She emphasized that most existing mitigation strategies focus only on the first level,damage prevention,while neglecting the deeper layers that are critical for achieving sustainable coexistence. Solutions like fencing or deterrents, while important, are insufficient on their own.

Global to Regional Policy Linkages: The session linked HEC mitigation efforts to Target 4 of the Kunming-Montreal Global Biodiversity Framework (KMGBF), which calls for managing human-wildlife interactions in ways that protect both biodiversity and human wellbeing.

The IUCN SSC Guidelines on Human-Elephant Conflict and Coexistence in Asia align closely with the broader IUCN Global Guidelines on Human-Wildlife Conflict, which are underpinned by key principles:

1. Do no harm
2. Contextual understanding of conflict
3. Collaborative approaches
4. Integration of science and policy
5. Support for sustainable, long-term pathways

Policy Gaps and the Need for National Frameworks: Prof. Zimmermann noted that although global and regional guidelines exist, many countries still lack dedicated national policies or structured action plans for human-wildlife conflict. The ongoing development of National Elephant Conservation Action Plans (NECAPs) presents an opportunity to integrate these principles at the national level.

Tools and Resources for Implementation: A range of resources are becoming available to support countries and practitioners:

- The Human-Wildlife Conflict Policy Database, which consolidates examples of structured policy responses.
- Translated guidance materials to enhance accessibility.
- IUCN HWC training modules and the upcoming International Conference on Human-Wildlife Conflict and Coexistence were also announced as key platforms for learning and collaboration.

Alignment with the 2022 Kathmandu Declaration: The presentation reinforced commitments made in the 2022 Kathmandu Declaration, particularly the call to:

- Minimize negative human impacts on elephants.
- Develop long-term solutions to reduce HEC.
- Engage local communities meaningfully.
- Promote sustainable and alternative livelihoods.
- Encourage Range States to adopt national HEC mitigation guidelines, based on those developed by the IUCN SSC AsESG following regional consultations.

Guiding Questions for Country Discussions

- What are the next steps for developing and adopting national guidelines?
- How can countries build a roadmap for implementing HEC strategies?
- In what ways can these strategies be embedded within NECAPs and national policy?

Prof. Alexandra Zimmermann presenting on Human–Elephant Conflict

Discussion

Vietnam reaffirmed its commitment to the 2022 Kathmandu Declaration, particularly the call to promote the development of national guidelines on human-elephant conflict mitigation. The country acknowledged that earlier HEC strategies focused heavily on protecting elephants, sometimes at the expense of human considerations. Vietnam is now intentionally shifting toward a more balanced, coexistence-based approach that considers the wellbeing of both humans and elephants. Current efforts include developing context-specific, case-by-case HEC strategies at the local level, which will later inform the creation of comprehensive national guidelines. There are also plans to scale up successful local initiatives into national frameworks.

Thailand reported that human-elephant conflict remains a major national issue, with considerable loss of both human life and property. The country is committed to preparing national-level HEC guidelines, and is already piloting regionally adapted strategies, including fencing systems developed and maintained with community participation. These locally tailored solutions are being used as foundational models for scaling up to national policy, with a strong emphasis on collaboration and responsiveness to regional differences.

Sri Lanka emphasized the severity of HEC, which has been addressed through a national-level HEC action plan that outlines short-, medium-, and long-term activities tailored to different districts. The country promotes human-elephant coexistence and implements measures such as seasonal fencing projects to protect crops, with material support provided by the government and involvement from local communities. While some fencing initiatives have been successful, others have faced challenges due to limited human resources, inconsistent community participation, and coordination difficulties. The government collaborates with multiple departments and organizations in executing HEC mitigation strategies and continues to invest in community awareness efforts. Sri Lanka stressed the importance of developing comprehensive, site-specific, and collaborative approaches to HEC that go beyond infrastructure alone.

Nepal described human-elephant conflict as one of the most pressing and escalating challenges. While HEC was previously limited, elephant incursions into human settlements have increased dramatically over the past five years. The country emphasized the need to shift focus from changing elephant behavior to changing human behavior and government response. Elephants are becoming increasingly aggressive, leading to frequent incidents of crop raiding and property damage. Nepal called for incentive-based support systems for affected communities, many of whom are economically vulnerable. The delegation also recommended that government development agencies be actively integrated into the formulation and implementation of HEC guidelines, recognizing that mitigation cannot rest solely with conservation departments. Notable past successes with fencing and mitigation measures were highlighted, along with a recommendation for multi-ministerial collaboration in future strategies.

Sabah Malaysia reported having established standard operating procedures (SOPs) for mitigating HEC. The state also benefits from NGO-led initiatives, particularly in addressing conflict in and around plantation areas. Collaborative efforts are underway with various government departments to address infrastructure-related challenges, including the impact of linear infrastructure on elephant movement and conflict patterns.

Peninsular Malaysia shared that its latest action plan includes comprehensive strategies to mitigate HEC. The country is working closely with multiple stakeholders, including local communities, and has implemented a variety of on-the-ground initiatives. These include the construction of fences, provision of equipment and resources, and active community engagement in conflict response and prevention.

Lao PDR is currently implementing HEC guidelines with a strong focus on local context and animal behavior. The country is working to establish effective community-based mechanisms for conflict management. Educational programs have been launched to improve awareness at the local level, but further focus is needed on strengthening both HEC mitigation and long-term management strategies.

Indonesia shared that its HEC guideline document is already prepared, with a strong emphasis on addressing the socio-economic dimensions of human-elephant conflict at the local level. As part of its mitigation strategy, the country is developing predictive models to identify future HEC-prone areas. Indonesia also acknowledged the usefulness of the roadmap presented in the session for informing its national HEC guidelines, which are still under development. The government is also considering relocating human settlements situated within key elephant corridors and landscapes, where mitigation is particularly difficult. Indonesia invited suggestions from other Range States on specific sections or approaches to include in its national HEC guidelines, seeking to make the document more effective and comprehensive.

China expressed strong support for the HEC Guidelines by IUCN SSC AsESG and indicated that the country is in the process of formulating both national and regional HEC mitigation strategies. China confirmed its commitment to incorporating IUCN guidance into its future national plans and is actively exploring how to align its efforts with the broader regional framework for human-elephant coexistence.

Cambodia reaffirmed that HEC is a national priority issue. The country is actively working to implement additional projects aimed at mitigating HEC, with a focus on enhancing community involvement and addressing compensation mechanisms for those affected. While national HEC guidelines have not yet been formalized, Cambodia indicated plans to collaborate with experts and partners to explore how the IUCN SSC AsESG guidelines can be integrated into its National Elephant Conservation Action Plan (NECAP) in the near future.

Bhutan shared that it does not currently have a standalone HEC guideline, but its strategies for managing human-elephant conflict are guided by the existing National Elephant Conservation Action Plan (NECAP). The NECAP includes provisions relevant to HEC mitigation, though a dedicated guideline may be considered as efforts evolve.

Bangladesh has undertaken a number of policy and legal initiatives to address human-elephant conflict. Recognizing the importance of biodiversity and wildlife conservation, Article 18A of the Bangladesh Constitution was amended to explicitly mandate the conservation of wildlife. Bangladesh has also adopted national policies that address HEC mitigation and compensation for affected communities, including loss of life and property. While there is no dedicated HEC guideline at present, the country acknowledged the importance of developing one and is actively considering the formulation of a structured HEC guideline to strengthen its national conservation efforts.

Speaking on behalf of **India,** Mr. Manoj Nair shared that while India does not yet have a standalone National Elephant Conservation Action Plan, efforts are underway to develop one, and human-elephant conflict will be a central component of that plan. India has already developed several field manuals and guidelines for HEC mitigation, which are being implemented at the state level.

He emphasized the importance of context-specific approaches, noting that different subspecies of elephants and varying regional landscapes require distinct strategies. Many Indian states already have their own guidelines and protocols for HEC management. Mr. Nair suggested that since several Range States already have some form of HEC action plans, a general template or common format for HEC guidelines could be shared across the region to promote consistency and alignment.

He also raised an important emerging concern: in certain regions like Odisha, issues related to social and ecological carrying capacity of elephants are surfacing. This raises the question of how to effectively manage areas where both elephant population pressures and community tolerance levels are becoming limiting factors for coexistence.

Conclusion

Session VII brought urgent attention to the rising frequency and complexity of human-elephant conflict (HEC) across the Asian elephant range. Professor Alexandra Zimmermann's presentation emphasized that HEC is not just about physical damage but a deeply rooted socio-ecological challenge requiring context-sensitive, long-term solutions. Her introduction of the IUCN SSC Guidelines on Human-Elephant Conflict and Coexistence in Asia provided a critical foundation for national adaptation.

Country discussions revealed that many Range States are developing or refining HEC guidelines, with countries like Indonesia and Sri Lanka already implementing national plans. Others, including Vietnam, Cambodia, and China, expressed intent to align with IUCN SSC and AsESG frameworks. Emphasis was placed on community involvement, education, and site-specific solutions, with examples such as participatory fencing systems and localized behavioral studies.

The socio-economic dimension was strongly emphasized,compensation, development policy, and community incentives were highlighted as essential components. India also raised emerging concerns around social and ecological carrying capacity in conflict-prone zones.

There was broad support for a shared guideline structure, technical support from AsESG, and the integration of HEC strategies into NECAPs and national frameworks. The session reaffirmed that successful HEC management requires building systems of coexistence, not just wildlife control.

Session VIII: Best Practices for Elephant Survey Techniques

Session Chaired by Mr. Kencho Rigzin, Government of Bhutan, and Facilitated by Mr. Donny Gunaryadi, Member IUCN SSC AsESG.

Session Presentation

Accurate, up-to-date, and standardized data on wild elephant populations are essential for effective, science-based conservation planning and policy. However, many Asian elephant range countries continue to face persistent technical, logistical, and financial barriers in conducting comprehensive and coordinated national surveys. These gaps hinder the ability to track population trends, assess threats, and evaluate the effectiveness of conservation interventions.

Mr. Donny Gunaryadi's presentation provided an in-depth exploration of these common challenges while highlighting practical approaches, technological innovations, and regionally relevant solutions to improve elephant population monitoring. Drawing on both field-based experiences and recent advancements, the session emphasized the urgent need for harmonized, range-wide survey frameworks to support evidence-based decision-making in elephant conservation.

Key Themes from the Presentation

Fundamental Questions Guiding Population Surveys

- Mr. Gunaryadi stressed that elephant surveys should aim to answer several core questions:
- What is the geographic range and distribution of elephant populations?
- Are these populations expanding, declining, or fragmented?
- What are the key threats to elephants and their habitats?
- How effective are current law enforcement and conservation interventions?
- What are the population trends (stable, increasing, or decreasing)?

Common Challenges Across Range States

Elephant range countries frequently face shared barriers, including:

- Lack of trained personnel and experienced survey teams
- High financial and logistical costs
- Inaccessibility of remote or fragmented habitats
- Limited access to modern technology
- Difficulty selecting appropriate methods suited to different terrains and survey goals

Survey Method Selection: A Contextual Framework

Choosing the right survey method depends on:

- The reliability and suitability of the method for a given terrain
- The time and manpower available for fieldwork
- The skills of the survey team
- Budget constraints and availability of equipment

Emerging Tools and Technological Innovations

Several promising tools are improving the feasibility and accuracy of elephant population surveys:

- Camera traps and drone-based imagery are becoming more accessible and scalable.
- A 2024 study demonstrated the use of N-mixture models and photogrammetry from drones to estimate Sumatran elephant populations based on body size and movement behavior.

These techniques enable non-invasive, real-time assessments, especially in difficult-to-reach habitats.

Toward Harmonized, Range-wide Survey Practices

The session raised critical questions on how to improve survey standardization and knowledge sharing:

- Is there a need for simplified and harmonized survey techniques across Range States?
- What are the minimum data requirements necessary for informing national and regional policy?
- How can advanced technologies (e.g., AI-based detection, thermal imaging) be adapted to different landscapes?
- What types of support do Range States require to build local capacity and reduce survey costs?
- Can the IUCN SSC AsESG help facilitate the development of standardized protocols for a future range-wide survey?

Discussion

Peninsular Malaysia has transitioned from direct observation methods to more advanced techniques, such as DNA-based analysis and drone-assisted surveys. The current approach involves collecting dung samples for genetic analysis, which is considered more accurate in dense forest habitats. While drone use is in the early stages, the team recognizes its potential and is interested in technical support for drone operation and data analysis, especially for AI-assisted individual identification. Funding remains a constraint, as surveys are primarily supported by the national government budget. Malaysia suggested that the IUCN SSC AsESG could assist by providing guidelines for individual elephant identification and supporting the standardization of survey tools. A shared approach to equipment procurement was also proposed as a cost-saving measure.

Sabah Malaysia reported the use of similar methodologies to Peninsular Malaysia, including DNA sample collection. While not detailed further during the discussion, the state is also exploring diversified survey approaches to improve accuracy and coverage in its forested elephant habitats.

Myanmar shared its experience conducting two national elephant surveys using both dung count and direct count methods. However, challenges related to conflict, resource constraints, and limited accessibility have hindered recent efforts to sustain or expand survey activities. The country acknowledged the limitations of earlier methods and expressed interest in exploring newer technologies, such as remote sensing. Myanmar formally requested technical assistance and support in survey design, indicating a need for both methodological guidance and capacity building to resume comprehensive population assessments in the future.

Nepal, with a relatively small wild elephant population, has employed a mix of direct observations in open areas and indirect methods, such as dung analysis. The country has also experimented with DNA-based sampling, but noted that the high cost of such methods poses a challenge for both researchers and government-funded projects. Nepal emphasized the need to identify affordable

alternatives that still ensure data reliability. Additionally, the safety of field survey teams,especially in remote or conflict-prone areas,was raised as a priority. Nepal expressed interest in expert support to refine and scale up survey methodologies suited to its unique landscape and capacity.

Sri Lanka's current approach combines dung count and direct count methods, with the most recent national survey completed in 2024. The country has also conducted DNA analysis, but echoed Nepal's concerns about its cost and logistical demands, particularly in terms of field mobilization. Sri Lanka advocated for prioritizing direct count methods in its context, finding them more feasible than dung-based estimates. It further stressed the importance of surveys that not only produce population numbers but also capture elephant movement patterns, distribution of threats, and population structure, to better inform conservation planning.

Thailand employs a hybrid approach to elephant population surveys, combining dung count, direct count, camera traps, and expert opinion. The country has recently incorporated drone analysis into its methodology and is working to develop site-specific methods before implementing surveys on a broader national scale. Thailand's surveys collect data on population numbers, distribution, and habitat characteristics, and the approach increasingly emphasizes the integration of technology and community-based tracking. Thailand noted that a combination of visual signs, camera traps, and population structure analysis is key to improving data accuracy and reliability.

Vietnam shared that its survey methodologies align closely with those used by Sri Lanka, particularly dung count and direct observation methods. The country noted that it also investigates human-elephant conflict dynamics as part of its population monitoring, including patterns of fence-breaking by elephants to enter villages. Vietnam emphasized the need to understand underlying causes of elephant behavior as part of broader ecological assessments, recognizing that survey work must integrate both biological and behavioral insights.

Lao PDR reported using a combination of survey techniques, including dung count and DNA analysis, particularly in studies of the captive elephant population. For wild elephants, data is also collected through the Monitoring the Illegal Killing of Elephants (MIKE) programme under CITES, which provides insights into mortality trends. Lao PDR is working to strengthen the scientific basis of both wild and captive population monitoring through more consistent methodologies.

Indonesia employs a range of survey methods including dung count, DNA analysis, and camera traps, supported by collaborations with MIKE-CITES in key landscapes. While these tools are useful, the large geographic range of elephant habitats in Indonesia presents a persistent challenge. The country expressed a clear need for more efficient and scalable survey tools and welcomed further regional exchange on best practices and technology adoption to improve coverage and accuracy.

India conducts synchronized, nationwide elephant population surveys every five years using a hybrid methodology that incorporates dung count, DNA analysis, and camera traps. These surveys are coordinated in partnership with the Wildlife Institute of India, which is currently preparing a comparative study on the efficacy of various sampling methods. The upcoming report is expected to serve as a valuable reference for other Range States. India also emphasized the importance of developing standardized survey formats across countries to ensure data consistency, comparability, and policy relevance.

China reported the use of a comprehensive and technology-driven approach to elephant population monitoring. The country has developed and implemented AI-powered surveillance systems that integrate drones, real-time image recognition, camera traps, and infrared cameras across key elephant corridors and habitats. These systems enable real-time monitoring with over 99% accuracy in individual elephant identification, enhancing both conservation response and long-term data collection. China is also investing in facial recognition technologies to further refine identification capabilities. In addition to these innovations, China continues to use DNA sampling and camera traps to validate population estimates and track individual movement patterns. Genomic research is also being pursued to support broader conservation objectives.

Cambodia employs a range of survey methodologies, including dung count, camera trapping, height-based identification, and increasingly, the use of drones. While the country considers DNA analysis the most accurate method for population assessment, the high costs remain a barrier to its frequent use. Cambodia emphasized the importance of habitat surveys as a critical component for both population estimation and human-elephant conflict (HEC) mitigation. Understanding elephant movement patterns and identifying high-risk landscapes are central to its strategy. Cambodia reaffirmed its commitment to expanding technical capacity and integrating habitat-focused surveys into national HEC response planning.

Bhutan conducts elephant population assessments using dung surveys, radio telemetry, and camera traps. However, the country acknowledged that it faces methodological limitations, such as observer bias and challenges related to terrain. Bhutan's densely forested landscapes make it especially difficult to use aerial tools like drones effectively. While camera traps are useful in specific contexts, their deployment is constrained by visibility and coverage limitations in rugged habitats. Bhutan expressed interest in adopting AI-enabled camera systems, similar to those used in China, to improve monitoring accuracy. The country also emphasized the importance of gathering information not only on population numbers but also on habitat use and elephant distribution patterns.

Bangladesh shared that its last official elephant population survey was conducted in 2015–2016, forming the basis for its current National Elephant Conservation Action Plan. The survey utilized a combination of dung count methods, focus group discussions, and data from the Bangladesh Forest Department. Since then, no comprehensive national survey has been undertaken. However, Bangladesh is now in the process of updating its observation plans and population database, recognizing the need for more current data to inform policy and conservation interventions.

Conclusion

Session VIII underscored the critical need for accurate, standardized elephant population surveys as the foundation for science-based conservation planning. Mr. Donny Gunaryadi's presentation highlighted core survey questions,on population trends, distribution, threats, and conservation impact,and reviewed evolving methodologies, from dung counts and direct observation to drones, DNA analysis, and AI tools.

Country discussions revealed diverse practices and capacities. India and China showcased advanced monitoring systems, while countries like Nepal, Sri Lanka, and Bhutan cited financial and logistical

barriers to adopting high-cost technologies. Many emphasized integrating habitat mapping and movement data to inform conflict mitigation.

The cost of equipment and technical expertise was a common concern. In response, the Chair called for IUCN SSC AsESG to develop a standardized survey protocol, adaptable to varying terrains and resources, and to address cost-efficiency. Countries also requested support in drone operation, AI-assisted monitoring, scalable survey design, and field safety training.

The session concluded with strong consensus on the need for a harmonized yet flexible approach to survey design. A regionally supported framework, led by AsESG, backed by technical guidance and cost-sharing mechanisms,will be key to generating robust, comparable data and advancing the Range-wide Asian Elephant Action Plan.

Day 3

Session IX: Minimizing Impacts of Linear Infrastructure on Elephant Habitats

Session Chaired by Mr. U.L. Thaufeek, Government of Sri Lanka, and Facilitated by Mr. Robert Ament, Member IUCN WCPA TWG

Session Presentation

Linear transport infrastructure (LTI)—including roads, railways, and other development corridors—represents a growing and urgent threat to Asian elephants across their range. These structures fragment critical habitats, restrict movement across landscapes, and lead to an increase in elephant mortality from collisions. This session focused on practical solutions and technical guidance to mitigate these impacts, centered on the recently developed "Handbook to Mitigate the Impacts of Roads and Railways on Asian Elephants", a collaborative product of the Asian Elephant Transport Working Group (AsETWG).

The session was co-led by Mr. Rob Ament (Co-Chair, AsETWG) and Dr. Fernanda Teixeira (Coordinator, AsETWG), on behalf of the AsETWG, a cross-commission body affiliated with both the IUCN SSC AsESG and the WCPA Connectivity Conservation Specialist Group (CCSG).

Mr. Rob Ament and Dr. Fernanda Teixeira presenting during the session on Linear Infrastructure

Key Points from the Presentation

Background on the Asian Elephant Transport Working Group (AsETWG)

- Formed in 2019, the group now comprises 36+ members from all 13 Asian elephant Range States.
- Unites specialists in elephant ecology and infrastructure design.

- Actively produces accessible resources such as case studies, Gajah journal articles, and this newly launched handbook.
- Operates with a steering committee composed of both wildlife and transport infrastructure experts.

Mandate from the 2022 Kathmandu Declaration

The 2022 Kathmandu Declaration calls on Range States to:

- Promote the maintenance and connectivity of large Asian elephant landscapes, ensuring that new infrastructure is biodiversity-appropriate.
- Develop national guidelines on wildlife-friendly linear infrastructure—drawing from models such as the AsETWG handbook—following consultations with Range States.

Presentation of the Handbook

The handbook serves as a practical guide for integrating elephant-specific mitigation measures into infrastructure planning and development. It offers both strategic and technical guidance, including case examples and engineering specifications.

Goals of the Handbook:

- Recommend specific design solutions for elephant crossing structures.
- Provide a data-driven approach to identifying mitigation sites.
- Reflect the current best practices in infrastructure ecology and highlight gaps requiring further research.
- Serve as a living, adaptable reference for government agencies, planners, and field engineers.

Highlighted Topics Covered in the Handbook

1. Types of Crossing Structures

- Underpasses: bridged underpasses, expanded bridges, viaducts, tunnels.
- Overpasses: natural or landscaped overpasses, bridged overpasses.
- Promotes consistent use of nomenclature and design standards.

2. Best Practice Design Guidelines

- Recommends dimensions for vertical clearance, horizontal width, and structural length.
- Provides a sliding scale of minimum overpass widths relative to span lengths, including approach slopes.

3. Site Selection Methodologies

- Crossing structure placement can be informed by:
    - Elephant corridor plans
    - Sign surveys
    - Camera trap data

    - Collision hotspot mapping
    - GPS telemetry tracking

4. Role of Fencing in Elephant Movement

- Fencing ensures effective use of crossing structures by reducing random road access.
- Types include electric fencing, barriers, and concrete ditches.
- Acknowledges that fencing strategies must be context-appropriate and financially feasible.

5. Mitigation for Low-Traffic, Low-Speed Roads

- Low-impact roads can be addressed through:
    - Dynamic signage
    - Speed-calming designs
    - Motion-activated sensors to alert drivers in real time

6. Adherence to the Mitigation Hierarchy

- Emphasizes prioritizing Avoidance, then Minimization, before implementing mitigation structures.
- Particularly critical when infrastructure is proposed inside or near protected areas.

Draft Policy Recommendations Shared

Recommendation 1: Apply the Mitigation Hierarchy
Recommendation 2: Follow global standards
Recommendation 3: Promote the Use of Wildlife Crossing Infrastructure
Recommendation 4: Incorporate the Asian Elephant Handbook into Agency Design Manuals
Recommendation 5: Strengthen Monitoring and Research
Recommendation 6: Foster Regional and International Collaboration

Key Questions Raised for Discussion

- How can Range States apply and adapt the handbook's recommendations to their national contexts?
- What role should AsETWG and AsESG play in supporting countries?
- How can countries access funding and expertise to initiate demonstration projects and pilot mitigation structures?
- How can IUCN and partners support the creation of cross-sectoral dialogue between wildlife and transport ministries?

Discussion

Sri Lanka has a high-speed railway line that frequently intersects elephant movement corridors, with over 100 elephants sometimes crossing the tracks. While the recommended underpass height is 6 meters, elephants often raise their trunks up to 16 feet (4.8 meters), making it difficult for them to

pass through comfortably. During moments of excitement, they tend to raise their trunks, further complicating their ability to use these underpasses.

To address this, **Sri Lanka** has recommended increasing the minimum underpass height to 10 meters and has proposed this to the Department of Railways. Along highways, at least 10 underpasses have already been constructed, each with a 10-meter height and 20-meter width. While elephants were initially hesitant to use them, they have gradually adapted over time.

Additionally, detection sensors have been installed along railway tracks to alert train drivers when elephants are within a 100-meter radius. However, fencing systems that were tested did not yield successful results. **Sri Lanka** seeks guidance on best practices to further improve mitigation strategies for elephant safety along railway and highway networks.

A specific railway line in **Bangladesh** passes through three protected areas, which poses a significant challenge for elephant conservation. While this is an unfortunate situation, the area also serves as an important tourist destination, making railway connectivity essential.

To mitigate the impact on wildlife, both overpasses and underpasses were constructed along the railway. However, monitoring revealed that elephants exclusively used the underpasses, while the overpasses remained largely unused. Based on these observations, a culvert was converted into an underpass, and subsequent monitoring confirmed that elephants are now actively using it.

Bangladesh is also working closely with the railway department to develop wildlife-friendly linear infrastructure. The country emphasizes that research and monitoring play a crucial role in improving mitigation strategies. Additionally, community involvement is considered vital for the long-term success of these conservation efforts.

Bhutan does not yet have specific guidelines or infrastructure designed for elephant movement. However, the country has several arch bridges, and to assess their effectiveness, camera traps have been installed to monitor whether elephants are using these structures. This data will help inform future wildlife-friendly infrastructure planning and best practices.

Cambodia does not yet have specific guidelines for linear infrastructure in elephant habitats. However, efforts are being made to protect key elephant corridors to ensure safe movement. As an initial mitigation measure, road signs for elephant crossings have been installed to alert drivers and reduce the risk of accidents. Cambodia continues to explore additional strategies for wildlife-friendly infrastructure development.

In **China,** any linear infrastructure project passing through elephant habitats must undergo a mandatory impact assessment. Based on the findings, necessary modifications such as elevation are recommended to optimize the project for wildlife movement. No road project can be approved without this evaluation. Additionally, all such infrastructure must incorporate protection and monitoring devices to ensure elephant safety. Post-construction monitoring is considered crucial to assess whether elephants are using the infrastructure as intended and to make further improvements if needed.

Indonesia fully supports the recommended policies and already has strict regulations in place for road construction through forested areas. The country follows clear protocols to ensure that linear infrastructure does not affect elephant habitats. There are two key areas where such infrastructure intersects with elephant movement, and regulations have been implemented to mitigate the impact. Additionally, Indonesia has adopted various recommendations from the Asian Elephant Handbook and the IUCN working group to enhance conservation efforts.

Peninsular Malaysia supports the recommended policies and has developed its own guidelines and wildlife management plan for infrastructure development. The country conducts Wildlife Impact Studies to assess the effects of linear infrastructure on wildlife before construction. Several mitigation measures have already been implemented to reduce the impact on elephant habitats and ensure safer movement corridors.

In **Sabah Malaysia**, railway networks do not pose a conflict with elephant habitats, as their paths do not intersect. However, with planned highway expansion, Sabah recognizes the need for wildlife-friendly infrastructure and aims to adopt the recommended mitigation strategies to ensure safe elephant movement.

Myanmar does not yet have specific guidelines for linear infrastructure in elephant habitats. However, any new construction through forested areas requires Forest Department approval to ensure minimal impact on wildlife. While underpasses have been constructed in some wildlife sanctuaries, monitoring has shown that elephants do not use them and instead prefer crossing the roads directly. Myanmar seeks strategies to improve elephant adaptation to these underpasses for safer movement.

Nepal is in the early stages of developing wildlife-friendly linear infrastructure. The government has recently introduced a specific mandate for such projects, and various government departments are in ongoing discussions about implementing underpasses in newly expanding road networks.
However, challenges remain, particularly budget constraints and a lack of awareness among engineers about the importance of wildlife-friendly infrastructure. A key recommendation is to involve engineers in the drafting process of guidelines so they develop a sense of ownership and understanding of these measures.

Nepal also emphasizes the importance of research to gather evidence on animal movement before construction and to monitor the effectiveness of infrastructure post-construction. Additionally, Nepal advocates for securing global grants to support developing countries in implementing wildlife-friendly infrastructure.

Thailand finds the Asian Elephant Handbook to be a valuable resource for planning and implementing wildlife-friendly linear infrastructure. With ongoing highway expansion projects, the handbook will be useful to guide mitigation measures and ensure minimal impact on elephant habitats. Thailand also emphasizes the importance of research and monitoring, which it already conducts post-construction to assess the effectiveness of these infrastructure developments.

Vietnam has already begun implementing the recommended policies for wildlife-friendly linear infrastructure. The country has strict regulations in place for any infrastructure development through forested areas, ensuring that projects meet environmental and conservation standards. Vietnam is now prioritizing elephant conservation and is actively seeking guidance on best practices to further improve its efforts.

Conclusion

Session X highlighted the urgent need to minimize the ecological impacts of linear transport infrastructure (LTI) on Asian elephant populations. Anchored by the newly released *Handbook to Mitigate the Impacts of Roads and Railways on Asian Elephants*, the session provided science-based guidance for designing, locating, and implementing elephant-specific mitigation measures such as overpasses, underpasses, and fencing. Emphasis was placed on applying the mitigation hierarchy—avoidance, minimization, then mitigation—and tailoring solutions to landscape and traffic conditions.

Country discussions revealed a range of progress and challenges. Several Range States, including Sri Lanka, Bangladesh, China, and Indonesia, have begun incorporating underpasses, detection systems, and policy mandates for LTI assessments. Others, such as Nepal, Myanmar, and Cambodia, are in earlier stages of policy development and called for technical support, awareness-building among engineers, and access to funding. Across the board, countries emphasized the need for research, community involvement, and post-construction monitoring to ensure infrastructure functions as intended.

The session reaffirmed the Asian Elephant Handbook as a vital resource and called for its integration into national design manuals. Moving forward, countries requested continued engagement with AsETWG and AsESG to support implementation, foster capacity, and promote region-wide adoption of wildlife-friendly infrastructure standards.

Session X: Strengthening Transboundary Cooperation for Asian Elephant Conservation

Session Chaired by Mr. Bed Kumar Dhakal, Government of Nepal, and Facilitated by Ms. Heidi Riddle, Vice Chair, IUCN SSC AsESG

Session Presentation

Transboundary cooperation is increasingly vital to the conservation of Asian elephants, whose habitats often span political borders. This session built upon the commitments of the 2022 Kathmandu Declaration, which called for formal agreements and protocols that enable cross-border elephant movement and collaborative management.

Ms. Heidi Riddle opened the session by highlighting the ecological necessity of transboundary corridors and joint protected areas. Elephants routinely traverse national borders in search of food, water, and habitat, and these movements must be facilitated through well-governed, ecologically secure landscapes that transcend political boundaries.

The session emphasized the shared responsibility of Range States to manage elephant populations cooperatively, especially in regions where conflict, habitat fragmentation, or administrative differences challenge coordinated responses.

Mandate from the Kathmandu Declaration

The 2022 Kathmandu Declaration calls on Range States to develop bilateral transboundary agreements, protocols, or understandings in countries where Asian elephants move across borders. These arrangements are intended to facilitate elephant movement through transboundary corridors and protected areas, reduce human-elephant conflict, and support coordinated conservation efforts.

Country-Specific Progress based on 2022 & 2025 Updates from AsERSM survey

Bangladesh

- Noted the presence of a fence along the Myanmar-Bangladesh border as a physical barrier influencing transboundary movement. (2022)
- Reported that a Standard Operating Procedure (SoP) for managing transboundary elephants with India is nearing completion. (2025)

India

- Signed a Protocol on Transboundary Elephant Conservation with Bangladesh during the India-Bangladesh Virtual Summit on 17 December 2020. (2022)
- Engages in local-level cooperation along its borders with Nepal, Bhutan, and Myanmar to manage shared elephant populations and associated challenges. (2025)

Nepal and India

- Have an active transboundary conservation agreement in place, supporting elephant movement and coordinated habitat protection across shared borders. (2025)

China and Lao PDR

- Continue to strengthen joint protection efforts, having expanded a transboundary protected area by approximately 133,334 hectares, contributing significantly to habitat connectivity. (2025)

Sabah Malaysia and North Kalimantan, Indonesia

- Are in the process of developing a transboundary corridor to support safe elephant movement between their respective protected landscapes. (2025)

Strategies and Mechanisms for Developing Transboundary Agreements

The presentation outlined several practical pathways and collaborative approaches for formalizing and operationalizing transboundary cooperation:

- Establishing Memoranda of Understanding (MoUs) or bilateral agreements between neighboring Range States to formalize coordination.
- Strengthening or initiating local- and national-level transboundary meetings to address operational challenges and build trust.
- Leveraging existing protected areas situated along border landscapes as anchor sites for transboundary elephant corridors.
- Promoting joint research initiatives, including the use of GPS collaring and ecological monitoring, to track elephant movements and inform joint management.
- Engaging facilitating partners such as IUCN, AsESG, and other conservation organizations to provide technical support, mediation, and strategic coordination.
- Exploring funding opportunities to support transboundary activities such as exchange visits, collaborative dialogues, training programs, and the development of joint management frameworks.

Discussion

Vietnam is progressing on the implementation of a formal agreement with Lao PDR, although funding limitations have caused delays. The country proposed the formation of a working group to explore potential cooperation with Cambodia. The goal is to gradually establish practical and policy-level collaboration through bilateral and subregional platforms.

Thailand reported ongoing efforts to develop bilateral understandings with several neighbors, including Lao PDR, Cambodia, and Malaysia. These efforts are intended to lead to signed Memoranda of Understanding (MoUs) that support elephant movement and coordinated conservation actions in shared landscapes.

Sri Lanka clarified that as an island nation, it does not experience transboundary elephant issues. However, it expressed support for the broader regional cooperation framework and emphasized the importance of internal habitat connectivity.

Nepal emphasized the importance of adopting a multi-tiered approach to transboundary elephant conservation, involving coordination and collaboration from the community level to the central government. Given the regular movement of elephants across the Nepal-India border, and occasionally from Bhutan, Nepal highlighted the utility of formal Memoranda of Understanding (MoUs) as a tool for structured and predictable cooperation. The country also stressed the need for real-time sharing of elephant movement data between bordering communities to mitigate human-elephant conflict (HEC) and promote coexistence. Nepal and India currently maintain an active transboundary conservation agreement, which facilitates joint efforts in habitat protection and supports the safe movement of elephants across shared landscapes.

Myanmar acknowledged transboundary issues at several border points, particularly involving cross-border elephant movement with China, Thailand, and India. While MoUs can be effective, Myanmar noted that formal agreements are often complex to establish. The country suggested that alternative, case-by-case approaches may be more practical where mutual benefit can be demonstrated. Myanmar also highlighted the need to address issues related to captive elephants as part of transboundary management.

Sabah Malaysia emphasized the urgency of protecting the endangered Bornean elephant population. Cross-border collaboration is a conservation priority, and efforts are ongoing to formalize cooperation with neighboring regions, including through Memoranda of Understanding (MoUs).

Peninsular Malaysia confirmed the existence of a bilateral agreement with Thailand, particularly focusing on shared interests in protected areas and elephant corridors. The current emphasis is on tackling cross-border illegal activities, especially the illegal wildlife trade.

Lao PDR reported having existing transboundary agreements with both China and Vietnam. The country reiterated its commitment to collaborative efforts aimed at managing transboundary elephant movement and resolving shared conservation challenges.

Thailand confirmed the existence of transboundary agreements and reiterated its commitment to strengthening regional cooperation for Asian elephant conservation. It acknowledged the ongoing transboundary corridor agreement between Sabah Malaysia and North Kalimantan, Indonesia, as a positive example of cross-border collaboration. Thailand expressed interest in expanding future partnerships, particularly with neighboring countries such as Lao PDR, Cambodia, and Malaysia, to enhance connectivity, improve coordination, and support regional efforts to facilitate safe elephant movement across borders.

China highlighted its formal transboundary agreement with Lao PDR, which supports a 120-kilometer stretch of joint protected area dedicated to biodiversity conservation, including habitats used by Asian elephants. The country reported ongoing elephant migration along the Myanmar–China border, underscoring the ecological importance of cross-border connectivity. China also shared that the joint

protected area with Lao PDR has been expanded by approximately 133,334 hectares, reflecting continued commitment to collaborative habitat protection. China expressed interest in further strengthening cooperative mechanisms with neighboring Range States to improve coordinated conservation and monitoring efforts across transboundary landscapes.

Cambodia shared that it has existing transboundary agreements with both Thailand and Vietnam. The country expressed readiness to deepen collaborative protection of elephant movement across borders and ensure secure corridors for transboundary migration.

Bhutan emphasized the importance of transboundary cooperation, especially given the seasonal migration of elephants from India. A recurring challenge is that elephants often get chased back and forth across the border by local communities, exacerbating human-elephant conflict (HEC) on both sides. Bhutan called on IUCN to facilitate formal dialogues between range countries to address these shared challenges and promote coordinated responses to border-related HEC.

Bangladesh reported experiencing frequent and large-scale elephant migration from Myanmar and India, with groups of over 250 elephants entering primarily through the northern border regions. The erection of seasonal fencing on the Indian side has, at times, blocked the natural return routes of these elephants, leading to increased human-elephant conflict (HEC), including significant damage to property and loss of human lives in affected Bangladeshi communities. Although a feasibility study for transboundary corridors was completed in 2022, efforts to initiate follow-up dialogue with Myanmar and India have stalled due to geopolitical challenges. Bangladesh reiterated its willingness to renew cross-border communication and requested IUCN's support in re-establishing coordination mechanisms. Additionally, the country noted that a Standard Operating Procedure (SoP) for managing transboundary elephants with India is nearing completion.

Conclusion

The session emphasized the critical need for transboundary cooperation to safeguard elephant movement across shared landscapes. Many countries,such as India, Nepal, China, Lao PDR, and Vietnam reported progress in bilateral or regional agreements, while others, including Bangladesh and Bhutan, highlighted complex on-ground challenges linked to migratory elephant routes and HEC. Recurring issues such as seasonal fencing, administrative delays, and lack of cross-border coordination continue to disrupt elephant movement and exacerbate local tensions. Country statements reflected strong interest in advancing joint conservation strategies, with calls for IUCN and the AsESG to facilitate dialogue, technical support, and working groups. The importance of integrating these frameworks into national conservation plans was repeatedly emphasized.

Facilitator Ms. Heidi Riddle urged Range States to re-prioritize transboundary cooperation, as committed in the 2022 Kathmandu Declaration, and reaffirmed AsESG's readiness to provide technical advice and consultation support. The session concluded with consensus that coordinated, science-based, and trust-driven mechanisms, such as formal MoUs, shared databases, and community-level cooperation,are essential for long-term habitat connectivity and peaceful coexistence in border regions.

Session XI: Mapping the Distribution of Elephants Across Range States

Session Chaired by Dr. Mollah Rezaul Karim, Government of Bangladesh, and Facilitated by Dr. Prajna P. Panda, Member and Programme Manager, IUCN SSC AsESG

Session Presentation

Reliable and standardized data on the distribution of Asian elephants is essential for informed conservation decision-making, transboundary coordination, and national policy development. This session presented the progress and methodology of the Asian Elephant Distribution Mapping Initiative, spearheaded by the IUCN SSC AsESG. The goal of the initiative is to generate administrative boundary-level maps—at district or equivalent levels—across all 13 elephant range countries in Asia.

Dr. Prajna Panda introduced the objectives of the initiative and outlined how the process is helping governments consolidate fragmented data, improve monitoring efforts, and create a foundation for more strategic conservation planning. The mapping serves not only ecological purposes but also supports land-use policy, corridor management, and human-elephant conflict (HEC) mitigation through clearer spatial understanding.

Key Points from the Presentation

Purpose and Rationale:

While many Range States have developed country-specific maps of Asian elephant distribution, a comprehensive, range-wide mapping effort remains absent. This initiative aims to fill that gap by producing accurate, nationally validated maps using standardized administrative boundaries (e.g., district-level), making the outputs directly relevant for national planning and cross-border coordination.

- The initiative is designed to produce accurate, range country-validated maps of elephant distribution using administrative boundaries (e.g., district-level) to ensure applicability to planning frameworks.
- It aims to support both national conservation planning and cross-border coordination between neighboring Range States.
- The mapping process also helps identify critical data gaps, promoting consistency in survey methods, reporting practices, and terminologies used across countries.
- Maps generated through this process are intended to serve as living tools, updated periodically as new information becomes available.

Current Conservation Status

- Asian elephants (Elephas maximus) and Bornean elephants are classified as Endangered on the IUCN Red List.
- The Sumatran elephant (Elephas maximus sumatranus) is listed as Critically Endangered.
- Despite an overall perception of population stability, there are clear signs of decline in several local populations, largely due to habitat fragmentation, poaching, and conflict.
- The species is found across 13 countries in South and Southeast Asia, making cross-national mapping critical for comprehensive planning and coordination.

Objectives and Process Adopted

The mapping process followed a demand-driven and collaborative approach. The IUCN SSC AsESG first engaged with Range States to understand whether countries required a consultative workshop or technical support for mapping efforts. Where countries expressed interest or the need for capacity building, IUCN supported the organization of national workshops—as conducted in Nepal, Cambodia, Lao PDR, Peninsular Malaysia, and Sabah Malaysia—bringing together Forest Departments, NGOs, elephant experts, and AsESG members to jointly review and validate elephant distribution data. In other cases, such as Thailand, Bangladesh, and Bhutan, where countries had existing datasets and technical capacity, the focus was on data collation and standardization for mapping. In the case of Sri Lanka, the mapping was led through independent research conducted by AsESG experts, who synthesized field-based findings into a national distribution profile.

The distribution mapping project follows a multi-stage, collaborative methodology:

1. Data Collection: Using consultative workshops, expert meetings, and official datasets provided by forest departments and conservation partners.
2. Compilation: Merging datasets from various sources including government records, NGO field reports, and long-term research data.
3. Curation: Cleaning and verifying the data to ensure geographic and ecological accuracy.
4. Mapping: Creating visual, standardized maps that can be used by planners, researchers, and government agencies.

Progress to Date

Mapping has been successfully completed in eight Range States, with year of completion noted:

- Sri Lanka – Led by AsESG experts
- Nepal – Completed in July 2023
- Cambodia – Completed in August 2023
- Thailand – Completed in September 2023
- Lao PDR – Completed in December 2023
- Bangladesh – Completed in February 2024
- Peninsular Malaysia and Sabah Malaysia – Completed in August 2024
- Bhutan – Completed in November 2024

Mapping is ongoing or pending initiation in the following countries:

- China
- India
- Indonesia
- Myanmar
- Vietnam

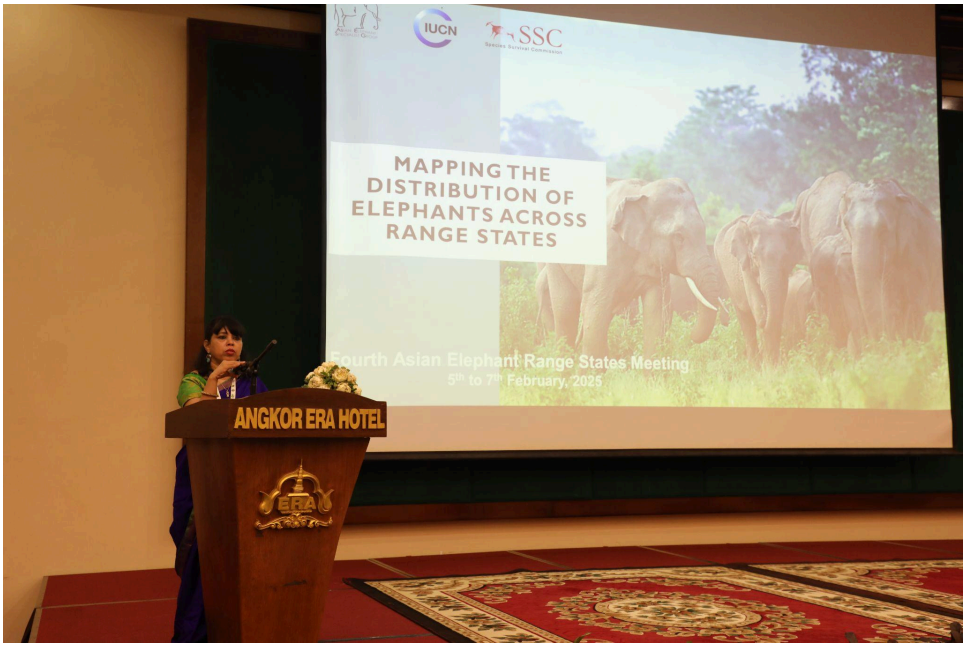
These countries are at different stages of preparation or data gathering, and support from AsESG continues to ensure consistency and scientific rigor in the process.

Project Contributors

The IUCN SSC AsESG mapping initiative is led by a core group of conservation experts and technical advisors:

- Dr. A. Christy Williams (Convenor)
- Dr. P. Fernando (Sri Lanka)
- Dr. Varun Goswami (India)
- Dr. Peter Leimgruber (US)
- Dr. Anand Kumar (India)
- Dr. N. Baskaran (India)

These contributors bring expertise in elephant ecology, spatial mapping, and field data integration, and have supported capacity-building efforts across multiple Range States.



Dr. Prajna Panda sharing updates on mapping of Asian elephant distribution

Discussion

Most Range States reported either completing or making substantial progress in mapping elephant distribution. Countries such as Nepal, Sri Lanka, Thailand, Bhutan, Bangladesh, Lao PDR, Peninsular Malaysia, and Sabah Malaysia confirmed that their mapping is complete and data has been submitted or is ready to be shared. Indonesia noted strong progress and ongoing data validation, with updates expected soon. Vietnam shared that mapping is underway and aligned with its recently approved NECAP, with completion expected shortly. China affirmed ongoing habitat monitoring and expressed willingness to collaborate further. Myanmar acknowledged delays due to unforeseen circumstances but committed to providing updates.

Facilitator Dr. Prajna Panda urged all countries to collaborate, share expertise, and request technical support as needed to ensure the completion of range-wide mapping. Most countries expressed the intention to finalize and share mapping data by September this year.

Session XII: Community involvement in elephant conservation; Genetics in small populations; Carrying capacity of elephant habitats; Invasive species control in elephant habitats

Session Chaired by Ms. Tran Thi Hoa, Government of Vietnam, and Facilitated by Dr. Rachel Crouthers, Member, IUCN SSC AsESG

Session Presentation

The session covered a broad range of interrelated conservation themes critical to long-term elephant management. These included: genetic techniques and the challenges in monitoring small populations, the need to assess the carrying capacity of elephant habitats, strategies for community involvement in the conservation of wild populations, and the emerging issue of invasive species in elephant landscapes. The session was structured around these four technical and policy areas to invite country-specific inputs into the ongoing work and to shape future support mechanisms and collaborative actions under the guidance of the IUCN SSC AsESG.

Due to the diversity of topics and limited timeframe, this session differed from others as there was insufficient time to gather input from each country individually. Therefore, after each topic was presented, an open discussion was held, and a broad consensus on next steps was summarised.

1. Genetics in Small Populations

The session explored the importance of how non-invasive genetic tools can be used to provide insights into population size, composition and structure as well as genetic variation and diversity. To effectively manage and maintain healthy and resilient elephant populations under current and future threats, there is a need to assess a range of population metrics, not just census trends

In large, well-connected populations, genetic variation and diversity tends to be high, allowing for greater adaptability, disease resistance, and reproductive success. However, small and isolated populations are becoming an increasing concern across several range states, as they face a higher risk of inbreeding, which can lead to reduced fertility, increased calf mortality, lower immunity, and compromised long-term survival. However, gathering population demographic data on wide-ranging low-density populations can be challenging. Consequently, genetic sampling is being widely used to understand the status of many globally threatened species, including Asian elephants.

Dr. Crouthers introduced these key concepts alongside a range of non-invasive elephant genetic tools and techniques using nuclear (inherited from both parents) and mitochondrial (maternally inherited) DNA to assess different population parameters. Four types of genetic markers were discussed, with two; microsatellites and SNPs presented in detail::

- Microsatellites – Highly polymorphic, short repeating sequences of 2–6 base pairs , often less abundant than SNPs Widely used in several range countries to estimate population size, kinship, structure, and diversity. However, technically more complex to analyse and comparability is limited due to differences in marker sets, scoring biases, and challenges in

inter-lab transferability. Low-quality samples often fail to amplify or produce high genotype error rates.

- Single Nucleotide Polymorphisms (SNPs) – Single base-pair variation at specific genome points These are often more abundant and offer broad, genome-wide coverage but contain less information per marker than microsatellites. Consequently, more SNPs are often needed for population-level analysis. Advantages include easier scoring and greater transferability across studies. Although SNP development and use in Asia remains limited, studies in Borneo and Cambodia have shown promising results, yet further research is needed to develop and test larger SNP
- Sex determination primers: Short DNA sequences used in PCR by targeting sex-specific genes or sequences on the sex chromosomes. Standardised Asian elephant primer sets widely used to assign sex, though results may vary with DNA quality.
- Mitochondrial DNA primers: Widely used in Asian elephant studies to investigate phylogeography, clade divergence, and genetic diversity. Results are also DNA-quality dependent. Which can impact the ability to amplify long fragments of mtDNA using existing well-established primers. Testing of new multiple primers that generate 1978 bp sequence length have recently been published.

The discussion underscored the urgent need for increased funding, training, and standardized protocols to support range States in building in-country capacity for genetic sampling and analysis, particularly for fragmented or small populations.

2. Carrying Capacity in Elephant Habitats

The second theme focused on the concept of carrying capacity, such as how many elephants an ecosystem can support without degradation or increased conflict. Although this concept is well-established in wildlife management, it has not been widely applied or standardized for Asian elephant conservation.

Dr. Crouthers encouraged countries to begin thinking about habitat-specific carrying capacity in relation to:

- Population size, demography and distribution
- Availability of food and water resources
- Habitat suitability
- Calf survival and breeding rates
- Landscape fragmentation and human pressures

Participants discussed the potential of developing site-based models to estimate carrying capacity. These outputs could inform decisions related to habitat restoration, land-use planning, and population management. Countries expressed interest in technical guidance and modeling tools that integrate ecological and social factors in assessing carrying capacity.

3. Community Involvement in Elephant Conservation

- A major portion of the session was devoted to strategies for community-based conservation strategies, with inputs drawn from range country experiences. Dr. Crouthers advocated for

holistic, inclusive approaches and highlighted co-management models that involve communities inTourism and livelihood programs

- Reforestation and habitat restoration
- Participatory land-use planning
- Conflict mitigation and local governance

The presentation underscored the importance of sustainable and fair compensation schemes, alternative cropping methods, and education and awareness-building, particularly in human-elephant conflict (HEC) areas. Successful elephant conservation hinges on the active community engagement, trust, and benefit sharing, especially for those living closest to elephant habitats. Countries were invited to highlight existing gaps and areas where capacity building, policy support, or pilot funding would be most beneficial.

4. Invasive Species Control in Elephant Habitats

Finally, the last session addressed the often-overlooked issue of invasive plant species in elephant habitats. Dr. Crouthers introduced the IUCN technical document titled *"Extent and Distribution of Some Invasive Plant Species in Asian Elephant Habitats"*, and announced the launch of a new IUCN Invasive Species Working Group.

The presence of invasive species—especially in grasslands and wetlands—can reduce forage quality, alter habitat structure, and disrupt ecological balance, indirectly affecting elephants and directly impacting other wildlife species and ecosystem services. While the degree of impact on elephants remains under study, the presence of species like *Mikania micrantha*, *Chromolaena odorata*, and *Lantana camara* is already problematic in several areas.

Dr. Rachel Crouthers deliberating with the participants

Countries were invited to share:

- What are the key gaps or challenges your country is currently facing in elephant conservation, particularly in the areas discussed during this session?

- What types of support would be most valuable to address these gaps effectively?
- How can the IUCN SSC AsESG best support your country's efforts through collaboration, guidance, or resource-sharing?

Discussion

1. Genetics in Small Populations

Thailand has undertaken genetic mapping studies for small and fragmented elephant populations, primarily carried out through PhD-level research programs. These efforts have provided valuable insights into population structure and genetic health but are often constrained by the high cost of genetic research and a lack of sustained funding. It was emphasized that the continuation and expansion of such genetic work are difficult without external support. It proposed that organizations like IUCN could play a valuable role in supporting research funding, particularly by facilitating training, fellowships or grants for doctoral-level studies. Financial and technical assistance of this kind could help build long-term, in-country research capacity and contribute to a more comprehensive understanding of elephant genetics in Thailand.

Vietnam expressed serious concern about inbreeding risks due to its small and isolated wild elephant population, which is increasingly vulnerable to genetic bottlenecks and lack of movement between elephant groups. Although Vietnam has made efforts to initiate genetic analysis, a major obstacle lies in the logistical limitations. Collected DNA samples must currently be sent abroad for processing, often resulting in delays that compromise the quality and reliability of the data. Vietnam expressed interest in developing national capacity for genetic analysis, including establishing domestic laboratory capabilities, training personnel, and improving protocols for sample collection and preservation. The country also requested technical guidance on how to minimize inbreeding risk and maintain genetic diversity within its elephant population.

China reported that it has conducted genetic assessments of small, geographically isolated elephant populations, particularly in southern provinces where natural fragmentation limits movement and gene flow. However, China raised important scientific concerns about the implications of prolonged isolation—specifically, whether these populations would suffer from reduced genetic variability and how that might impact long-term health and adaptability. China expressed an interest in better understanding the potential consequences of low genetic exchange, and whether managed gene flow or genetic rescue strategies might be appropriate under certain circumstances. The country called for deeper scientific dialogue and expert input on these complex questions, particularly in relation to regional connectivity and conservation genetics.

Indonesia acknowledged ongoing efforts to develop tools and protocols for field-based genetic work, including the creation of custom software for sample tracking and DNA collection. However, despite these innovations, Indonesia emphasized that technical uncertainties persist, particularly concerning the best practices for genetic amplification, sample handling, and lab coordination. While several national laboratories exist—within universities and government institutions—there is a lack of standardization and guidance. Indonesia requested that IUCN develop and share clear, step-by-step protocols for genetic analysis, and expressed willingness to collaborate on pilot projects or regional genetic studies. Expert

input from IUCN and its specialist networks was identified as critical for improving both sample reliability and research outcomes.

Additional Points Raised

Mr. Manoj Nair (India) asked whether there is an open-source, centralized database for Asian elephant genetic information that could be accessed or contributed to by range States. In response, Dr. Rachel Crouthers clarified that the entire genome of the Asian elephant is publicly available, offering a valuable resource for researchers. However, she noted that developing and testing of Single Nucleotide Polymorphism (SNP), is relatively new and hasn't widely been discussed. Dr Crouthers informed all countries that a small set of SNPs tested in Cambodia is promising, within successful identification of individuals. Moreover, initial results indicate a higher amplification success rate per SNP compared to some microsatellite markers. Collaborations on the use and testing of SNPs has extended to wild elephant study in Laos, and those involved would likely be happy to collaborate further on its use to other range countries, The potential for countries to contribute unpublished SNP datasets to open platforms exists, but such sharing must be aligned with internal institutional permissions, national policy, and ethical guidelines. Encouraging responsible data sharing could enhance regional collaboration and support more robust conservation planning.

Mr Nair mentioned that India is also developing and testing a SNP marker set and future regional collaborations would be extremely beneficial to avoid duplication and wasted efforts. Dr Crouthers advised that if they or other countries are interested in further use and testing of SNP markers, she could reach out to RZSS to see how future collaborations could be made.

Overall, all range countries expressed strong interest in a dedicated workshop on elephant genetics and practical implementation guidelines, including cost protocols and best practices, to enhance national capacities and conservation outcomes

2. Carrying capacity of elephant habitats

Thailand emphasized the importance of evaluating the carrying capacity of elephant habitats, particularly in the context of increasing human-elephant conflict (HEC) across several regions. While preliminary discussions and internal efforts to initiate such assessments are ongoing, no comprehensive or formal carrying capacity study has been completed. Thailand acknowledged the technical complexity of such evaluations and highlighted the urgent need for scientific guidance. Specifically, the country expressed interest in receiving methodological support and technical assistance from IUCN, including help in designing appropriate models, setting ecological indicators, and interpreting habitat use data that could guide more informed policy and management decisions.

Cambodia reported that it has not yet conducted any carrying capacity studies for its elephant habitats but recognized their importance for long-term conservation planning. The country expressed interest in understanding what carrying capacity entails—both conceptually and practically—and how it could be integrated into broader conservation frameworks, particularly those aimed at mitigating conflict and improving land-use planning. Cambodia indicated that such assessments could be especially valuable in areas experiencing rapid development or habitat pressure and expressed interest in regional guidance or technical workshops to build their national capacity in this area.

Bhutan confirmed that to date no formal assessments of elephant carrying capacity have been undertaken.However, it conveyed a strong interest in initiating such studies, especially given growing conservation pressures and the need for science-based habitat management. Bhutan called upon the IUCN SSC AsESG to consider developing and disseminating standardized guidelines and protocols that would help range States—including Bhutan—plan, implement, and analyze carrying capacity assessments effectively. The country noted that such tools would not only aid in understanding ecological thresholds but also support decisions related to corridor management, land-use regulation, and conflict reduction.

Overall, there was general consensus among all range countries for IUCN to facilitate regional workshops on carrying capacity and to develop and share standardized guidelines and protocols.

3. Community Involvement in Elephant Conservation

Myanmar underscored that community involvement is fundamental not only to elephant conservation but to broader wildlife protection efforts. The country identified a significant need for technical support in designing communication and negotiation strategies with local communities. Myanmar noted that effective engagement is often hindered by a lack of structured outreach tools and expertise, particularly for non-governmental organizations (NGOs) seeking to collaborate with government bodies. The country inquired whether IUCN could provide practical support or guidance on strengthening engagement mechanisms, including how NGOs and community-based organizations can more effectively coordinate with government institutions in support of conservation.

Nepal emphasized the importance of direct community participation in the implementation of elephant conservation strategies. Highlighting that coexistence is more achievable when communities are properly engaged, Nepal proposed incentive-based models—such as introducing alternative cropping systems and compensation for losses caused by elephants—as effective tools to foster collaboration. The country also suggested that communities could themselves become active contributors to conservation if they are provided with the right training and capacity development opportunities. Empowered communities, Nepal noted, are more likely to act as partners rather than adversaries in protecting elephant habitats.

Lao PDR acknowledged its ongoing efforts to enhance community engagement but noted that limited local capacity remains a key constraint, especially in regions heavily affected by HEC. The country highlighted the importance of offering compensation to HEC-affected communities as a way to shift perceptions and foster more positive attitudes toward conservation. Lao PDR requested targeted capacity-building support, particularly in developing the skills of local leaders and facilitators, as well as support for research and outreach strategies that could improve community involvement in the long term.

Bangladesh expressed the need for expert guidance on both community engagement strategies and capacity development, particularly in HEC-prone areas. While the government does offer compensation to affected communities, Bangladesh cited funding limitations, especially for monitoring and sustained field-level engagement, as major challenges. The country also expressed interest in learning from the success stories and models of other Range States in terms of community communication, participation,

and capacity-building initiatives. Such shared learning, it noted, would be valuable for refining its own approaches to inclusive conservation.

Indonesia proposed that IUCN develop clear definitions, frameworks, and case-based best practices for involving communities in elephant conservation. The country shared that it is implementing several community restoration programs, particularly along elephant corridors, but acknowledged that some projects have failed, largely due to inadequate community involvement or unclear expectations. Indonesia is eager to learn from successful models or role examples across Asia and emphasized that a structured, replicable approach to community-based conservation would help range States better design and scale their efforts.

It was generally agreed by all range states that holding a workshop to learn from both successful and unsuccessful initiatives would be extremely beneficial for developing future holistic and participatory community-based approaches.

4. Invasive species control in elephant habitat

Nepal raised a critical ecological question about the relevance of invasive species control in the context of elephant conservation, as mostly grassland and wetlands gets affected by these species, and grazers are affected but elephants are not grazers. The delegation sought clarification on how invasive plant species in grasslands directly impact elephants and their habitats and what is the level of impact. We would like to have more expert opinions. If IUCN or any specialist group can share some research on.

Sri Lanka shared its experience of attempting to eradicate invasive species from protected areas since last many years but we have had limited success. The delegation expressed interest in learning from successful case studies in other regions or countries and asked if IUCN could provide such references or best practice models. What to follow, mechanical removal or biological or chemical removal, what will be best?

Bangladesh reported having conducted studies to understand the impacts of alien invasive species on native wildlife. In our protected areas, we identified 34 invasive species, creating an issue of nutrition scarcity and covering forests, so it is a serious issue. If the IUCN specialist group can provide us with technical and financial support to eliminate these invasive species.

Overall, it seems that significant knowledge gaps exist regarding the types of invasive species across elephant range areas and their impacts on elephants, other wildlife, and the broader ecosystem. Addressing these knowledge gaps is essential for governments to integrate invasive species management into current and future conservation strategies.

Additional Note:
The facilitator, Dr. Rachel Crouthers, highlighted that IUCN has published guidance on managing invasive species and has recently launched a dedicated IUCN Invasive Species Group. This presents an opportunity for countries to engage with a growing body of expertise and tools.

Conclusion

Session XII emphasized that community engagement is indispensable for the long-term conservation of Asian elephants, particularly in areas facing escalating human-elephant conflict (HEC), habitat degradation and modification, and socio-economic vulnerabilities. Countries such as Nepal, Myanmar, Lao PDR, Bangladesh, and Indonesia reiterated the need for targeted capacity building- both for conservation practitioners and local communities, to foster trust, shared responsibility, and sustainable coexistence strategies.

Discussions also pointed to persistent challenges in funding and technical expertise for designing effective community-based conservation programs. Delegates requested support from IUCN SSC AsESG in developing practical guidance or guidelines on community engagement, inclusive decision-making, and alternative livelihoods, such as elephant-compatible cropping methods.

The session further addressed carrying capacity assessments for elephant habitats. Many countries expressed interest in receiving technical support and standardized guidelines to determine whether existing landscapes can sustainably support elephant populations. Several countries indicated that, if such training were provided, they would be eager to attend and learn, so such a model could be applied across their elephant range areas.

Lastly, the session touched on the impacts of invasive species in elephant habitats. While Nepal questioned their relevance to elephants, Sri Lanka and Bangladesh shared experiences of limited success in controlling invasive species and called for greater shared learning and technical support to address this growing issue.

One important consideration noted was that time constraints limited the input from each range country during the session. Nevertheless, there was overall consensus that all countries could benefit from further training and, where feasible, financial support across the four key areas discussed

Session XIII: Introducing the Center for Species Survival Asian Elephant

Session Chaired by Mr. Krismanko Padang, Government of Indonesia, and Facilitated by Mr. Adam Felts, Director CSS Asian Elephant and Member IUCN SSC AsESG

Session Presentation

This session introduced the Center for Species Survival Asian Elephant (CSS Asian Elephant), a landmark initiative launched in 2023 to serve as a dedicated regional hub for the conservation of Asian elephants across all 13 range States. Facilitated by Mr. Adam Felts, the session outlined the CSS's mission, key activities, team structure, and vision for collaborative, science-based action aligned with the objectives of the 2025 Siem Reap Declaration.

With Asia hosting an estimated 50,000 wild elephants and 15,000 in captivity, there is an urgent need for a neutral, well-resourced platform to coordinate conservation strategies, foster transboundary collaboration, and build capacity across national and community levels. The CSS Asian Elephant, formalized through an MoU and hosted in Odisha, India, was created to address this gap. The Odisha Forest Department is currently overseeing construction of the permanent facility at Godibari, which will serve as the headquarters for CSS activities.

Working collaboratively with government representatives from all 13 range States, CSS is leading the development of a shared work plan, sustainability strategy, and stakeholder engagement framework to deliver its objectives. These core functions include:

- Resource Hub: Acting as a comprehensive platform for accessing up-to-date scientific research, data, and best practices on Asian elephant conservation.
- Capacity Building: Organizing technical workshops, training programs, and educational initiatives to support local conservationists, government officials, and community stakeholders.
- Rapid Response Grant: Offering emergency funding (up to USD 5,000) to address urgent conservation needs, such as installing electric fencing, supporting HEC mitigation, or conducting community workshops.
- Public Engagement and Education: Partnering with international and local organizations to raise awareness and foster public support for elephant conservation.

CSS Asian Elephant Leadership Team:

- Mr. Adam Felts – Columbus Zoo and Aquarium, Director CSS Asian Elephant
- Mr. Vivek Menon – Chair, IUCN SSC AsESG and Executive Director, WTI
- Ms. Heidi Riddle – Vice Chair, IUCN SSC AsESG
- Dr. Prajna Panda – Program Manager, IUCN SSC AsESG
- Mr. Jahnab Bhardwaj – Communications Officer, CSS Asian Elephant
- Ms. Kira Mileham – Director, Strategic Partnerships, IUCN SSC
- Ms. Mayerlin Ramos – Partnerships and Grants Coordinator, IUCN SSC

Key Initiatives Presented:

Since its establishment, CSS Asian Elephant has launched several strategic programs:

- Range States Workshop on Human-Elephant Conflict Mitigation (March 2024): Held near Kaziranga National Park, this workshop brought together range country stakeholders to develop actionable guidelines for mitigating human-elephant conflict and advancing coexistence strategies.
- Webinar on Linear Infrastructure Impacts (September 2024): This event focused on minimizing the impact of roads and railways on elephant habitats. The webinar featured the "Handbook to Mitigate the Impacts of Roads and Railways on Asian Elephants," co-developed by IUCN SSC AsESG and the IUCN WCPA Connectivity Conservation Specialist Group, advancing goals from the 2022 Kathmandu Declaration.
- Rapid Response Grant Initiative: Designed to address immediate conservation needs at the community level, the grant provides up to $5,000 to support interventions such as conflict mitigation, electric fencing, and emergency outreach activities.

The session reaffirmed the role of CSS Asian Elephant as a pivotal institution in the regional conservation landscape. With its focus on coordination, rapid support, and inclusive capacity development, CSS is uniquely positioned to support national conservation priorities and fill technical gaps. Delegates discussed how CSS can expand its collaboration model, strengthen regional ties, and serve as a blueprint for future species-specific conservation centers across the globe.

Discussion

Vietnam expressed support for the establishment of CSS Asian Elephant and welcomed the introduction of the Rapid Response Grant. The country is actively working to balance elephant conservation with community well-being, focusing on empowering local populations while protecting elephant habitats. It noted that initiatives like CSS can be particularly valuable for range States pursuing coexistence strategies.

Thailand recognized the CSS as a promising platform for regional collaboration and highlighted the importance of the Rapid Response Grant for addressing field-level conservation challenges. Interest was expressed in learning more about the grant's scope and how it can be accessed to support urgent mitigation needs, especially in the context of rising human-elephant conflict.

Sri Lanka emphasized its ongoing efforts to reduce human-elephant conflict through community-based initiatives, including support programs for families affected by elephant encounters. However, limited financial resources remain a challenge. The country raised the question of whether the Rapid Response Grant could be extended to cover such community-focused interventions and compensation efforts.

Nepal noted that financial support mechanisms like the Rapid Response Grant can play a critical role in strengthening on-the-ground conservation, particularly in remote areas. The country expressed interest in exploring future opportunities through CSS to access similar forms of technical and funding assistance in support of its elephant conservation objectives.

Myanmar expressed strong appreciation for the CSS Asian Elephant initiative and highlighted particular interest in the Rapid Response Grant. It emphasized that small grants are especially effective for immediate mitigation of human-elephant conflict. A quick response team is currently being established using internal government funds, but without external financial support. Myanmar noted that

it would be highly interested in applying for such grants to strengthen its on-the-ground response capacity.

Sabah Malaysia welcomed the establishment of CSS Asian Elephant and underscored the importance of incorporating local communities into conservation efforts. While acknowledging the usefulness of the Rapid Response Grant, Sabah suggested that CSS explore opportunities to facilitate community incentives, including through support for small local NGOs, to deepen grassroots involvement in elephant conservation.

Peninsular Malaysia expressed interest in learning more about the application process for the Rapid Response Grant. Having participated in the CSS-organized HEC workshop, the country is keen to know the status of the HEC mitigation guideline and its expected distribution timeline to range States. It also inquired about future capacity-building and training opportunities, specifically in technologies such as drone usage and AI tools for elephant monitoring, targeting rangers, frontline workers, and surveyors.

Lao PDR emphasized the value of small grants in supporting practical conservation needs, such as the procurement of equipment for frontline staff and the enhancement of interpretation centers for conservation education and nature-based tourism. The country noted that such targeted support could significantly improve community outreach and field-level conservation outcomes.

Indonesia noted the value of CSS Asian Elephant as a regional coordination platform and saw strong potential in leveraging its funding mechanisms to support capacity-building efforts, particularly in the area of HEC mitigation. The country emphasized that such targeted support could significantly enhance local capacity to respond to and manage HEC more effectively.

Speaking on behalf of **India**, Mr. Manoj Nair (Indian Forest Service) welcomed the establishment of CSS Asian Elephant and acknowledged the efforts of the Odisha Forest Department, which is currently constructing the center near Bhubaneswar, Odisha. India expressed optimism for expanded engagement from the center in the future, particularly in the area of capacity building for frontline conservation staff across the region.

China extended its best wishes for the success of CSS Asian Elephant and expressed interest in future collaboration with the center. It noted the importance of cross-country partnerships and indicated readiness to engage in shared conservation initiatives going forward.

Cambodia drew a direct connection between the CSS initiative and its own efforts to address ongoing human-elephant conflict. It expressed hope that the center's support, including the Rapid Response Grant, could be directed toward developing and implementing practical conflict resolution strategies at the local level.

Bhutan inquired about the eligibility criteria for accessing the Rapid Response Grant and proposed the idea of using such support to establish or scale up Quick Response Teams (QRTs) as a proactive measure to manage elephant-related emergencies. Bhutan is currently working to form a QRT and expressed interest in exploring how the small grant could help ensure the functionality and sustainability of such teams, making this a potential focus area for CSS assistance.

Bangladesh welcomed the launch of CSS Asian Elephant and the announcement of the Rapid Response Grant. It expressed enthusiasm for future collaboration and looked forward to engaging with the center in upcoming conservation initiatives.

Conclusion

Session XIII highlighted the emergence of the Center for Species Survival) Asian Elephant as a vital regional platform to coordinate and strengthen conservation actions across the 13 range States. The presentation by Mr. Adam Felts showcased the CSS's core functions,ranging from capacity building and technical support to communication, knowledge exchange, and the administration of a Rapid Response Grant to address urgent HEC situations.

Discussions reflected widespread enthusiasm for the initiative. Countries including Myanmar, Lao PDR, Indonesia, and Cambodia emphasized that small grants can make a significant difference, particularly for frontline staff, community-based actions, and rapid responses to HEC. Others, like Peninsular Malaysia, expressed a desire for clarity on application procedures, while Bhutan proposed targeted support for Quick Response Teams. Sabah and Indonesia highlighted the potential for CSS to serve as a vehicle for community engagement and conflict mitigation, aligning with its goal to support locally grounded yet regionally connected conservation efforts.

The session reaffirmed CSS Asian Elephant's role as a collaborative, neutral, and strategic hub. Its continued growth and responsiveness to the needs of Range States will be critical to elevating conservation outcomes for Asian elephants across the region.

Session XIV: Updating Text for "The 2025 Siem Reap Declaration for Asian Elephant Conservation"

Session Chaired by Ms. Somying Thunhikorn, Government of Thailand, and Facilitated by Mr. Vivek Menon, Chair IUCN SSC AsESG, and Ms. Heidi Riddle, Vice Chair, IUCN SSC AsESG.

A preliminary draft of the Siem Reap Declaration was circulated to all delegates in advance of the meeting to allow for initial review and preparation. During the session, delegates engaged in a detailed and collaborative review process, contributing actively to the refinement and finalization of the declaration text. The Siem Reap Declaration builds on the foundation laid by the 2017 Jakarta Declaration for Asian Elephant Conservation, and the 2022 Kathmandu Declaration, and outlines strengthened commitments and future actions to be undertaken by the 13 Asian Elephant Range States to ensure the long-term conservation of the species across its range.

Launching Ceremony of the 2025 Siem Reap Declaration

The 2025 Siem Reap Declaration for Asian Elephant Conservation was formally launched during a dedicated ceremony, following unanimous agreement by all 13 Asian Elephant Range States. This milestone marked a renewed collective commitment to regional cooperation in conserving the endangered Asian elephant. The declaration was officially launched in the presence of all delegates and meeting participants.

The launching was led by His Excellency Dr. Kim Nong, Undersecretary of State and Chair of the Technical Working Group on Elephants, Ministry of Environment, Government of Cambodia; Dr. Srey Sun Leng, Director General of the General Directorate of Natural Protected Area, Ministry of Environment, Cambodia; Mr. Vivek Menon, Chair of the IUCN SSC AsESG; and Ms. Heidi Riddle, Vice Chair of the IUCN SSC AsESG. They were joined by official representatives from all 13 Asian Elephant Range States, underscoring the spirit of unity and shared purpose that defines the declaration.

Mr. Vivek Menon sharing remarks during the launching ceremony for the 2025 Siem Reap Declaration

During the ceremony, Mr. Vivek Menon emphasized the importance of the meeting as a pivotal moment in advancing coordinated action for Asian elephant conservation. He reflected on the collaborative process through which the 2025 Siem Reap Declaration was developed and stressed the significance of sustained dialogue, knowledge exchange, and collective responsibility in safeguarding the future of the species.

His Excellency Dr. Kim Nong delivered a keynote address, in which he acknowledged the Range States' dedication to strengthening regional cooperation through platforms such as the Asian Elephant Range States Meeting. He highlighted the critical role of the declaration in setting a forward-looking agenda that addresses habitat protection, cross-border connectivity, human-elephant coexistence, and enhanced monitoring and enforcement.

HE Dr. Kim Nong delivering keynote address during the launching ceremony

Dr. Kim Nong also outlined Cambodia's national efforts to advance elephant conservation through integrated policy, community engagement, and alignment with broader environmental goals, including the country's commitment to sustainable development and climate resilience.

Launch of 2025 Siem Reap Declaration for Asian Elephant Conservation

Annex 1: Meeting participants

Country delegates

Name	Country	Title
Mr. Abu Naser Md Yasin Newaz	Bangladesh	DFO, Wildlife Management & Nature Conservation Division, Chattogram, Govt. of Bangladesh
Mr. Mollah Rezaul Karim	Bangladesh	Conservator of Forests, Chattogram Circle, Chattogram, Govt. of Bangladesh
Mr. Tashi Wangdi	Bhutan	Senior Forest Ranger, Sarpang, Govt. of Bhutan
Mr. Kencho Rigzin	Bhutan	Senior Forestry Officer, NCD , Govt. of Bhutan
Mr. Phan Channa	Cambodia	Deputy Director, General Directorate of Natural Protected Area, Ministry of Environment, Cambodia
Mr. Visattha In	Cambodia	Office chief of General Directorate of Natural Protected Area, Ministry of Environment, Cambodia
Ms. Lina Guo	China	Principal Staff Member, Yunnan Forestry and Grassland Bureau, Govt. of China
Ms. Yongjing Tang	China	Engineer, Asian Elephant Research Center, Southwest Survey and Planning Institute, National Forestry and Grassland Administration, NFGA, Govt. of China
Mr. Ramesh Kumar Pandey	India	Inspector General of Forests & Director, (Project Tiger & Project Elephant), Ministry of Environment, Forest & Climate Change, Govt. of India
Mr. Dheeraj Mittal	India	Assistant Inspector General of Forests, Ministry of Environment, Forest & Climate Change, Govt. of India
Mr. Krismanko Padang	Indonesia	Policy Analyst, Directorate of Biodiversity Conservation, Ministry of Environment and Forestry, Govt. of Indonesia
Ms. Niken Wuri Handayani	Indonesia	Forest Ecosystem Specialist, Directorate of Biodiversity Conservation, Ministry of Environment and Forestry, Govt. of Indonesia
Mr. Chanthone Phothitay	Lao PDR	Asian Elephant and MIKE Focal Point, Govt. of Lao PDR

Mr. Mohamad Khairul Adha bin Mat Amin	Malaysia (Peninsular)	Senior Assistant Director, Protected Area Division, Headquarters DWNP, Peninsular Malaysia
Mr. Salman bin Saaban	Malaysia (Peninsular)	Director of the Protected Areas Division, Dept. of Wildlife & National Parks of Peninsular Malaysia
Mr. Primus Lambut	Malaysia (Sabah)	Wildlife Officer and Species Manager, Sabah Wildlife Department, Government of Sabah Malaysia
Mr. Mohd. Soffian bin Abu Bakar	Malaysia (Sabah)	Deputy Director, Sabah Wildlife Department, Government of Sabah Malaysia
Mr. U Moe Myint	Myanmar	Deputy General Manager, Myanmar Timber Enterprise
Dr. Zaw Min Oo	Myanmar	Assistant General Manager, Myanmar Timber Enterprise
Mr. Khin Nyein San	Myanmar	Staff Officer, FD, Nature and Wildlife Conservation Division (NWCD)
Mr. Nyein Aung	Myanmar	Staff Officer, FD, Nature and Wildlife Conservation Division (NWCD)
Mr. Bed Kumar Dhakal	Nepal	Deputy Director General, Dept. of National Parks and Wildlife Conservation
Mr. Hari Bhadra Acharya	Nepal	Senior Ecologist, Department of National Parks and Wildlife Conservation
Mr. U L Thaufeek	Sri Lanka	Deputy Director (Elephant Conservation), Department of Wildlife Conservation, Ministry of Environment, Sri Lanka
Mr. P.L. Wimaladasa	Sri Lanka	Assistant Director (Eastern), Department of Wildlife Conservation, Ministry of Environment, Sri Lanka
Ms. Somying Thunhikorn	Thailand	Forestry Technical officer, Expert Level on Wildlife Conservation, DNP, Ministry of Natural Resources and Environment, Thailand
Mr. Charoenchai Tothaisong	Thailand	Forestry Technical officer, Professional Level DNP, Ministry of Natural Resources and Environment, Thailand
Ms. Tran Thi Hoa	Vietnam	Official of Department of Protected Areas Management, Vietnam Administration of Forestry

IUCN SSC AsESG and CSS Asian Elephant

Name	Organization
Mr. Vivek Menon	IUCN SSC AsESG
Ms. Heidi Riddle	IUCN SSC AsESG
Mr. Donny Gunaryadi	IUCN SSC AsESG
Dr. Rachel Crouthers	IUCN SSC AsESG
Dr. Prajna P. Panda	IUCN SSC AsESG
Ms. Megan English	IUCN SSC AsESG
Mr. Tuy Sereivathana	IUCN SSC AsESG
Dr. Alexandra Zimmerman	IUCN SSC AsESG
Dr. Mrigesh Kshatriya	Independent Consultant (AsESG)
Mr. Rob Ament (Joined through Zoom)	IUCN WCPA
Dr. Fernanda Teixeira (Joined through Zoom)	IUCN WCPA
Mr. Adam Felts	CSS Asian Elephant
Mr. Manoj Nair	CSS Asian Elephant
Mr. Jahnab Bhardwaj	CSS Asian Elephant

Organizing Committee

Name	Designation
Dr. Srey Sunleang	Director General of the General Directorate of Natural Protected Area, Ministry of Environment, Cambodia
Mr. Phan Channa	Deputy Director, General Directorate of Natural Protected Area, Ministry of Environment, Cambodia
Mr. Vivek Menon	Chair, IUCN SSC AsESG
Ms. Heidi Riddle	Vice Chair, IUCN SSC AsESG
Dr. Prajna P. Panda	Program Manager, IUCN SSC AsESG
Mr. Adam Felts	Director, CSS Asian Elephant
Mr. Jahnab Bhardwaj	Communications officer, CSS Asian Elephant

Annex 2: Meeting agenda

Day I: Wednesday 5 February 2025

Time	Activity	Remarks
8.15–8.45	Registration	
9.00–9.30	Opening Ceremony: Introduction of the meeting and welcome remarks	MC: Mr. Tuy Sereivathana, Member IUCN SSC AsESG
9.30–10.30	Session I: Asian Elephant Conservation Status – Brief Country Reports	Chair: Mr. Srey Sunleang, Govt of Cambodia Facilitator: Ms. Heidi Riddle, Vice Chair IUCN SSC AsESG
10.30–11.00	Tea/ Coffee	
11.00–13.00	Session I (Contd.)	Chair: Mr. Kong Kim Sreng, Govt. of Cambodia Facilitator: Dr. Megan English, Member IUCN SSC AsESG
13.00–14.00	Lunch	
14.00–15.00	Session II Discussion: Management of elephant corridors as strategies for minimising impacts of habitat fragmentation	Chair: Mr. Ramesh Pandey, Govt of India Facilitator: Dr. Prajna Panda, Member IUCN SSC AsESG
15.00–15.15	Tea/ Coffee	
15.15–16.30	Session III Discussion: Captive elephant management and registration	Chair: Dr. Zaw Min Oo, Govt of Myanmar Facilitator: Mr. Adam Felts, Member IUCN SSC AsESG, CSS Asian Elephant, AZA SAFE
19.00–21.00	Welcome Dinner	

Day II: Thursday 6 February 2025

Time	Activity	Remarks
9.00–9.15	Recap of the last day's discussion	Ms. Rachel Crouthers, Member IUCN SSC AsESG
9.15–10.15	Session IV Discussion: Building an Asian Elephant Database: Lessons from MIKE and AED	Chair: Mr. Chanthone Phothiary, Government of Lao PDR Facilitator: Dr. Mrigesh Kshatriya, Consultant to IUCN SSC AsESG
10.15–11.15	Session V Discussion: Funding support for Asian Elephant Conservation	Chair: Mr. Mohd Soffian bin Abu Bakar, Govt of Sabah, Malaysia Facilitator: Mr. Adam Felts, Member, IUCN SSC AsESG, CSS Asian Elephant, AZA SAFE; Ms. Cory Brown, USFWS
11.15–11.30	Tea/Coffee	
11.30–12.30	Session VI Discussion: National Action Plans and Range wide Asian Elephant Action Plan	Chair: Mr. Vivek Menon, Chair, IUCN SSC AsESG Facilitator: Dr. Prajna Panda, Member IUCN SSC AsESG
12.30–13.30	Lunch	
13.30–14.30	Session VII Discussion: Strategies and best practices for managing human-elephant conflict	Chair: Mr. Salman bin Saaban, Govt of Malaysia Facilitator: Dr. Alexandra Zimmerman, Member, IUCN SSC AsESG
14.30–15.30	Session VIII Discussion: Best Practices for Elephant Survey Techniques	Chair: Mr. Kencho Rigzin, Govt of Bhutan Facilitator: Mr. Donny Gunaryadi, Member, IUCN SSC AsESG
15.30–15.45	Tea/Coffee	

Day III: Friday 7 February 2025

Time	Activity	Remarks
9.00–9.15	Recap of the last day's discussion	MC: Ms. Megan English, Member IUCN SSC AsESG

9.15–10.15	Session IX Discussion: Minimizing Impacts of Linear Infrastructure on Elephant Habitats	Chair: Mr. U.L. Thaufeek, Government of Sri Lanka Facilitator: Mr. Robert Ament, Member IUCN WCPA TWG
10.15–10.30	Tea/Coffee	
10.30–11.00	Session X Discussion: Strengthening Transboundary Cooperation for Asian Elephant Conservation	Chair: Mr. Bed Kumar Dhakal, Government of Nepal Facilitator: Ms. Heidi Riddle, Vice Chair, IUCN SSC AsESG
11:00-11:30	Session XI: Mapping the Distribution of Elephants Across Range States	Chair: Dr. Mollah Rezaul Karim, Govt of Bangladesh Facilitator: Dr. Prajna Panda, Member, IUCN SSC AsESG
11.30–12.30	Session XII Discussion: Community involvement in elephant conservation; Genetics in small populations; Carrying capacity of elephant habitats; Invasive species control in elephant habitats	Chair: Ms. Tran Thi Hoa, Govt of Vietnam Facilitator: Ms. Rachel Crouthers, Member, IUCN SSC AsESG
12.30–13.00	Session XIII Discussion: Introducing the Centre for Species Survival: Asian Elephant	Chair: Mr. Krismanko Padang, Govt. of Indonesia Facilitator: Mr. Adam Felts, Member IUCN SSC AsESG, CSS: AsE; Dr. Manoj Nair, Odisha FD
13.00–14.00	Lunch	
14.00–15.00	Session XIV Discussion: Updating text for “The 2025 Siem Reap Declaration for Asian Elephant Conservation”	Chair: Ms. Somying Thunhikorn, Govt. of Thailand Facilitators: Mr. Vivek Menon, Chair IUCN SSC AsESG; Ms. Heidi Riddle, Vice Chair IUCN SSC AsESG
18.00–20.00	Launching Ceremony and Farewell Dinner	Remarks by Mr Vivek Menon, Chair, IUCN SSC AsESG Remarks by Government of Cambodia

		Launching of the “2025 Siem Reap Declaration for Asian Elephant Conservation”

Annex 3: The Siem Reap Declaration

THE SIEM REAP DECLARATION FOR ASIAN ELEPHANT CONSERVATION
SIEM REAP, CAMBODIA
FEBRUARY 7, 2025

We, the representatives of the government agencies from Asian Elephant Range States including the People's Republic of Bangladesh, the Kingdom of Bhutan, Kingdom of Cambodia, People's Republic of China, Republic of India, Republic of Indonesia, Lao People's Democratic Republic, Federal Democratic Republic of Nepal, Democratic Socialist Republic of Sri Lanka, Republic of the Union of Myanmar, Malaysia, Kingdom of Thailand, and the Socialist Republic of Vietnam, declare our common goal to conserve the Asian Elephant within its Range States, and:

Recognizing that the Asian Elephant, a seriously endangered species and one of the most iconic animals, faces a challenging future with the loss of its habitat, fragmented populations, high levels of human-elephant conflict, illegal killing, as well as other factors that have resulted in population declines in some of the Range States, and that we should have a common vision to promote Asian Elephant conservation;

Acknowledging that the Asian Elephant is a keystone species and an umbrella species whose conservation helps ensure the conservation of myriads of other species. Asian Elephants are also culturally significant across Asia. A failure to protect Asian Elephants and their habitat will therefore not only result in the loss of elephants but also the loss of biological and cultural diversity and the tangible and intangible benefits provided by elephants and the ecosystems they inhabit;

Noting that while elephant conservation is primarily a national responsibility, there is an urgent need to synergize national actions with international cooperation amongst the Range States for the long-term conservation of Asian

Elephants. The reversal of the crisis facing Asian Elephants is additionally dependent upon political, financial, and technical support from the international community;

Understanding the role of international agreements on the conservation of biological diversity and protection of endangered species, including the Asian Elephant, such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention on the Conservation of Migratory Species of Wild Animals (CMS), and to align with the global targets for 2030 of the Kunming-Montreal Global Biodiversity Framework of the Convention on Biological Diversity (CBD);

Acknowledging the presence and support of other governments, international organizations, non-governmental organizations, and other supporters of Asian Elephant conservation;

Building upon the Declarations for Asian Elephant Conservation of the Asian Elephant Range States Meetings of 2017 and 2022;

<u>Thus, we declare:</u>

- **To enhance cooperation between the 13 Range States both bilaterally and multilaterally, promoting transboundary conservation of the Asian Elephant, and sharing and learning to enhance national conservation measures;**
- **To promote coexistence by minimizing the negative impacts of humans on Asian Elephants and their habitats, address the root causes of human-elephant conflict, and develop long term solutions to minimize such conflict; engage with local communities to gain their participation in biodiversity conservation and land-use planning; and provide sustainable and alternative livelihoods through financial support, technical guidance and support, and other measures;**
- **To ensure effective law enforcement across the species' range to prevent illegal killing of Asian Elephants and the illegal trade in live Asian Elephants, ivory and its derivatives, and other elephant body parts;**

- **To promote and ensure the welfare of captive elephants is maintained at all times;**
- **To strengthen international collaboration, coordination, cooperation and communication based on bilateral and multilateral agreements where relevant, involving specialized expertise from national and international organizations, including but not limited to AsESG, IUCN SSC, CITES, INTERPOL, CBD, CMS, UNEP, ASEAN-WEN, SAWEN, and UNODC;**
- **To set up through appropriate mechanisms an Asian Elephant Fund, accessible to Range States and Range State civil society, to promote conservation of the species and its habitat;**
- **To develop an appropriate data sharing mechanism among Range States;**
- **Commit to develop, where necessary, and where applicable implement National Asian Elephant Conservation Action Plans that include, but are not limited to, the priorities listed in the annex to this Declaration.**

And call upon the international community to join us in addressing the challenges facing Asian Elephants and achieving a harmonious coexistence between humans and Asian Elephants.

<u>Annex: Priority Commitments by 2030 (In order to align with Target 4 of the Global Biodiversity Framework)</u>

- **Promote the maintenance and connectivity of large Asian Elephant conservation landscapes where new permitted developmental activities such as linear infrastructures are elephant- and biodiversity-appropriate;**
- **Promote the development of national guidelines on wildlife friendly linear infrastructure, including elephant, based on those developed by the Asian Elephant Specialist Group of the IUCN SSC and Connectivity Specialist Groups after Range States consultations;**
- **Develop bilateral transboundary agreements, protocols or understandings in relevant countries to ease movement of Asian Elephants through appropriate corridors and transboundary protected areas;**
- **Collectively develop, where relevant, and coordinate captive Asian Elephant registration programs in relevant countries, based on scientific research including, where appropriate, microchipping and/or DNA-based**

systems, and ensure cross-border movements of captive Asian Elephants are in compliance with all national and international laws and regulations;

- **Ensure that all Range States have a National Asian Elephant Conservation Action Plan;**
- **Promote, where applicable, the development of national guidelines on Human Asian Elephant Conflict mitigation based on those developed by the Asian Elephant Specialist Group of the IUCN SSC after Range States consultations;**
- **The Range States support the development of a range-wide Asian Elephant Conservation Plan by the Asian Elephant Specialist Group of the IUCN SSC;**
- **The Range States initiate the establishment of national Asian Elephant Databases where applicable, and with the technical support of the Asian Elephant Specialist Group of the IUCN SSC develop a standardized data sharing mechanism for countries;**
- **The Range States jointly initiate the creation of an Asian Elephant Fund based on identified priority actions and assisted by the Asian Elephant Specialist Group of the IUCN SSC;**
- **Build capacity of Range States towards the aforementioned actions as appropriate;**
- **Report on progress towards such actions at the stocktaking session to be held during the next Asian Elephant Range States Meeting.**

DONE in Siem Reap, Cambodia, on the Seventh Day of February in the Year Two Thousand and Twenty-Five, in a single original copy in the English language.