

**FINAL REPORT**



# **THIRD ASIAN ELEPHANT RANGE STATES MEETING**

KATHMANDU, NEPAL

APRIL 27-29, 2022



## **Acknowledgements**

The Organizing Committee of the 2022 Asian Elephant Range States Meeting in Kathmandu would like to thank the Government of Nepal's Ministry of Forests and Environment (MoFE) for hosting this important meeting. We also thank all the officials from the MoFE, Department of National Parks and Wildlife Conservation, officials of Chitwan and Bardia National Parks and Province 1, for their assistance and participation.

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 U.S. Fish and Wildlife Service for funding this meeting and making it possible for delegates from all range States to meet and continue working towards the conservation of Asian Elephants. The facilitation support from IUCN Special Survival Commission Asian Elephant Specialist Group is gratefully acknowledged.

We are thankful to the facilitators who assisted in guiding the meeting: the Chair of IUCN/SSC Asian Elephant Specialist Group (AsESG), Mr. Vivek Menon and the Vice Chair Ms. Heidi Riddle on behalf of the MoEF.

We appreciate the technical and organizing support of National Trust for Nature Conservation (NTNC), World Wildlife Fund-Nepal, and Zoological Society of London-Nepal.

The diligent work of the staff of NTNC throughout the meeting is acknowledged and much appreciated.

## Executive Summary

The first Asian Elephant Range States Meeting held in Malaysia in 2006 had brought together representatives from all the 13 Asian elephant range States to conduct threat assessment, identify factors affecting the population of Asian elephants, and make recommendations for the species conservation. The 2006 meeting had identified five overarching factors limiting population abundance of the Asian elephant, these were (i) lack of status and threat assessment, (ii) habitat fragmentation and loss, (iii) human-elephant conflict (HEC), (iv) illegal killing and trade, and (v) challenges in managing captive elephants. The meeting has identified high priority actions for each factor.

The second Asian Elephant Range States Meeting was held in Jakarta, Indonesia, in 2017. The highest priority topics of discussion identified by the range State delegates in the meeting included HEC, habitat, and trans-boundary issues. New topics highlighted were trans-boundary populations, growing local elephant populations, and captive elephant breeding programs. During the meeting, the delegates agreed to strengthen international collaborations, improve scientific monitoring to help restore the species' habitat, create transboundary corridors, and halt poaching and illegal trade of ivory. The primary output of the meeting was *The Jakarta Declaration for Asian Elephant Conservation* signed by all delegates at the conclusion of the meeting. This was the first time that all 13 Asian Elephant Range States declared a common vision to promote Asian elephant conservation range-wide, affirming their intent to cooperate based on the principles of sustainable development, science, education and training, as well as other activities relevant to Asian elephant conservation and development within the range states. The delegates had also declared their commitment to develop, where necessary, and implement National Elephant Action Plans.

Giving continuity to these efforts, the third Asian Elephant Range States Meeting was held in Kathmandu, Nepal from April 27 to 29 April 2022. This was yet another important platform to bring together the government delegates of the range States to work collectively in conserving Asian elephants. The meeting's agenda was to (i) gather updated status of Asian elephant populations in the range States, (ii) assess the efforts and progress made by the range States against the commitments set in the previous meetings, (iii) discuss on the challenges and issues of Asian elephant conservation through interactive sessions, and (iv) develop a common consensus for more synchronized and collaborative efforts for conserving Asian elephants across the range. Ten sessions were conducted with active participation from all delegates and representing agencies with an introductory presentation of the topics followed by discussions. *The Kathmandu Declaration for Asian Elephant Conservation*, ratified by all the range country delegates, was launched on the final day of the meeting. The Jakarta Declaration (2017) had set a broad foundation to lead the range States for more focused efforts for conserving Asian elephants. The Kathmandu Declaration has declared a common vision to promote Asian Elephant Conservation in all range countries, thereby bringing range-wide conservation gains for Asian elephants through enhanced cooperation between the range States, promote human-elephant coexistence, ensure effective law enforcement, promote welfare of captive elephants, strengthen partnerships at national and international levels, and implement National Asian Elephant Conservation Plans. Besides these commitments, the range States agreed to set-up through appropriate mechanisms an Asian Elephant Fund, and develop a data sharing mechanism between range countries, which captures some of the urgent needs to effectively manage both the wild and captive Asian elephant populations.

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**Ministry of Forest and Environment, Government of Nepal**



**Facilitated by:**



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## Acronyms

AI	Artificial Intelligence
AsERS	Asian Elephant Range States
AsESG	Asian Elephant Specialist Group
AsETWG	Asian Elephant Transport Working Group
CBAPU	Community-Based Anti-Poaching Units
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
DNA	Deoxyribonucleic Acid
DNPWC	Department of National Parks and Wildlife Conservation
EEHV	Elephant Endotheliotropic Herpesvirus
ETB	Elephant Tuberculosis
HEC	Human Elephant Conflict
HECx	Human Elephant Coexistence
ER	Elephant Reserve
ETIS	Elephant Trade Information System
EU	European Union
GoN	Government of Nepal
HWC	Human Wildlife Conflict
INTERPOL	International Criminal Police Organization
IUCN	International Union for Nature Conservation
MoFE	Ministry of Forests and Environment
MoU	Memorandum of Understanding
NGO	Non-Government Organization
NTFP	Non Timber Forest Product
NTNC	National Trust for Nature Conservation
MER	Managed Elephant Range

MIKE	Monitoring the Illegal Killing of Elephants
PA	Protected Areas
SAFE	Save Animals From Extinction
SAWEN	South Asia Wildlife Enforcement Network
SOP	Standard Operating Procedure
SSC	Species Survival Commission
UNEP	United Nations Environment Programme
UNODC	United Nations Office of Drugs and Crime
USAID	United States Agency for International Development
USFWS	United States Fish and Wildlife Service
WCCB	Wildlife Crime Control Bureau
WWF	World Wildlife Fund
ZSL	Zoological Society of London

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## Day 1

### Opening Ceremony

The 3<sup>rd</sup> Asian Elephant Range States Meeting was held in Gorkarna Forest Resort, Kathmandu, Nepal, during April 27 to 29, 2022. The Government of Nepal (GoN), hosted the hybrid-type meeting and participating delegates represented the respective government authorities from the 13 Asian Elephant Range States (AsERS). Due to varying travel circumstances in the range countries, delegates from Bangladesh, India, Lao PDR, Nepal, Sri Lanka and Malaysia attended the meeting in person while delegates from Thailand, Myanmar, Indonesia, Bhutan, Vietnam, Cambodia and China were present virtually through the Zoom meeting platform. Delegates from the International Union for Nature Conservation Species Survival Commission's Asian Elephant Specialist Group (IUCN-SSC AsESG), representatives from Nepal's conservation partners – National Trust Nature Conservation (NTNC), Zoological Society of London (ZSL) and World Wildlife Fund (WWF), Nepal's Province 1 forest authority, and National Park authorities of Bardia and Chitwan National Park also participated the meeting.

### Introduction to the Meeting and Welcome Remarks

Dr. Ramchandra Kandel, Director General, Department of National Parks and Wildlife Conservation (DNPWC), Nepal, welcomed all the meeting participants, expressing his sincere gratitude for the participation of the range countries delegates, and for the support of IUCN-SSC AsESG, United States Fish and Wildlife Service (USWFS), NTNC, WWF-Nepal and ZSL-Nepal in organizing the meeting. Dr. Kandel appreciated the commitment shown by the range States in conserving Asian elephants and stated the importance of continuing to jointly work together to secure a sustainable future for the Asian elephant. All range States and supporting organizations should continue to engage through a common platform, such as this meeting, to work collectively in the conservation of Asian elephants.

Highlighting the ecological and cultural significance of the Asian elephant, and the degree of uncertainty that the Asian elephant populations face for their long-term survival, Dr. Kandel stated the importance of various national and international instruments in force for conserving and protecting Asian elephants. All range States should maintain their efforts using these instruments, and ensure range-specific conservation strategies, priorities and arrangements for conserving Asian elephants.

Major challenges to conserving Asian elephants remain; these are primarily habitat loss and fragmentation, poaching and illegal trade, and human-elephant conflict. Since they are wide ranging animals and need extensive home ranges, it is a very challenging task to manage their populations in the wild. Tuberculosis and other zoonotic diseases, affecting both wild and captive elephants, also threaten Asian elephants. Growing human population, combined with inadequately planned large-scale linear infrastructure development, and those occurring especially along forest corridors that allow for movement across transboundary areas, are bigger emerging threats for the future of Asian elephants.

Nepal's Ministry of Forests and Environment (MoFE), entrusted with the management of both wild and captive Asian elephants, prioritizes protected areas and corridor management, management of elephant breeding centers, research, and human-elephant conflict management in conserving Asian elephants. The next Elephant Conservation Action Plan (2022-2027) of Nepal, which outlines priority conservation activities for elephant conservation in the next five years, is in the final stage of approval.

Despite our conservation efforts, populations of wild Asian elephants are in a decreasing trend in most range countries. Thus, moving forward, there are different areas of need, that are possible through collaborative effort from the range countries, donor organizations, conservation partners and local communities, and include the conservation of landscape, restoration of ecological corridors, maintaining genetic viability, health and welfare of captive elephants, control of zoonotic diseases, and potential impacts of climate change.

Dr. Kandel highlighted the discussions that the meeting will conduct over the next 3 days. These include to take stock of the status of Asian elephants in the range countries, discuss the various issues relevant to Asian elephant conservation, discuss building common strategies to control illegal wildlife trade, and deliberate on building common approaches for the management of corridors. Lastly, Dr. Kandel encouraged active participation from all the meeting participants and hoped that the Kathmandu Declaration will be a milestone for securing the future for Asian elephants.

### Official Opening of the Meeting

The Honorable Minister Ramsahay Prasad Yadav, Ministry of Forests and Environment, Nepal inaugurated the meeting by lighting the *Panas*.



### Keynote Address

Mr. Vivek Menon, Chair, IUCN-SSC AsESG, in his keynote address underlined the importance of Asian elephants as both keystone species and species of social heritage in the range countries. To recognize such significance of the Asian elephant, India has adopted the elephants as animal of National Heritage in 2010. Therefore, it is not just for the biological significance of the species; since all the range countries also

possess cultural and religious significance of Asian elephants, all range States are their ultimate custodians. Presently, population estimates of range countries are still crude. Available maps on elephant ranges and habitats are still broad; there is the need to produce a range-wide map through fine-scaled range country maps, possibly mapped from the lowest level of administrative units. Therefore, AsEGS's focus in this meeting is along these areas to support the range countries in using robust methods for population estimation and help produce the range-wide map. AsESG has guiding documents on different scientific issues such as the management of captive elephants, and a guidance document with good lessons learnt on human-elephant conflict management will be available soon. Mr. Menon encouraged the meeting to take the agenda for Asian elephant conservation to a higher level in actionable terms, especially to reduce human-elephant conflicts and improve transboundary conservation efforts.

### Remarks

Dr. Krishna Prasad Oli, Chairman, National Trust for Nature Conservation, welcomed the distinguished delegates and participants of the meeting. Dr. Oli showed his appreciation for the support of USFWS and IUCN-SSC AsESG in organizing the meeting. Highlighting the cultural significance of Asian elephants in the Hindu religion, Dr. Oli believes that in spite of deep-rooted cultural values and religious importance of the elephants, it is regrettable that elephants are gradually declining. Fragmentation of habitats and habitat loss, conflict with humans, poaching and poor law enforcement are the problems that need due attention. Although there are international legal instruments to protect Asian elephants, it is necessary to reflect on how these instruments are enforced through the domestic laws. Climate change has emerged as a threat that not only affects an individual animal's physiology, but also has negative results to the state of ecosystems and habitats. Some studies have found the elephants are moving to the Siwalik range, indicating their possible habitat shift into cooler climates. A report has indicated that 41% of the present elephant habitats could be affected by climate change and will continue to pervade as global warming continues. Human-elephant conflict is a major elephant conservation issue that has resulted from shrinking forest habitats. In this context, deliberations are needed to find measures to address the present and future needs while maintaining viable Asian elephant populations. Reducing elephant mortality from diseases such as tuberculosis and elephant herpes through disease surveillance, diagnosis and treatment among captive and wild elephant is another pressing need for ensuring Asian elephant conservation in the long-term. Range countries need to increase bilateral/multilateral cooperation to protect movement corridors and promote wildlife-friendly linear infrastructures for the management of transboundary elephant habitats and transboundary populations. A major research area that needs focus is in assessing carrying capacities of protected areas and other habitats to sustain elephant populations, and possibly devise adaptive management practices in future. Lastly, Dr. Oli thanked the range countries for providing the Government of Nepal the opportunity to organize this meeting and looks forward to a fruitful meeting to bring practical ideas and strategies that could materialize in all fronts of Asian elephant conservation, and range countries can adopt them to protect and enhance their wild elephant populations.

### Remarks

Dr. Pem Narayan Kandel, Secretary, Ministry of Forests and Environment, Nepal highlighted the social and cultural significance of elephants. The largest terrestrial animal, Asian elephants have been instrumental to human civilizations in many parts of Asia and they have a special place in both Hindu and Buddhist religions as the symbol of prosperity. And therefore, it becomes our common responsibility to safeguard the elephants for our future generations. Dr. Kandel expressed his commendations to the organizing agencies, DNPWC as the lead organization, and NTNC, ZSL-Nepal and WWF-Nepal for their supporting

roles in making the meeting a possibility. Dr. Kandel gave words of acknowledgement for the efforts, and appreciation for the commitment of the range States, IUCN-SSC AsESG, conservation partners and donor communities in conserving the last remaining populations of Asian elephants.

While habitat fragmentation, degradation, retaliatory killing, poaching, and zoonotic diseases are well known problems for Asian elephants, increasing number and density of linear infrastructures are hindering dispersal of elephants. Human-elephant conflict is ever increasing because of decreasing distance between people and forests. Thus, there may be no definite way to stop the conflict between humans and elephants, but today's need is to ensure human-elephant coexistence.

In Nepal, elephants are distributed in the Terai region where six protected areas have been established. Elephant conservation activities are being undertaken as per the Nepal Elephant Conservation Plan (2009 – 2018) where habitat management within the protected areas, restoration of wildlife corridors, registration of captive elephants, management of captive breeding center, rescue and treatment of problematic elephants, and mobilization of relief funds to the human-wildlife conflict victims are some of the major conservation strategies. To ensure management of trans-boundary habitats and trans-boundary elephant movements, the GoN has added its priorities for trans-boundary level coordination and collaboration with India. Bilateral efforts for collaboration between Nepal and India have been ongoing, and more collaborative actions are necessary in the future.

Following the promulgation of Nepal's new Constitution, it has been in the national focus to balance the need of conservation with development at different levels of policy and programs. Nepal's experience shows that local communities' support is essential for elephant conservation, which also needs external support for their livelihood improvement. Engagement of private sector, business community and internalization of environmental and social corporate responsibility while developing and operating new projects or industry is equally crucial. There is also the need to explore innovative financial mechanisms to reduce human-elephant conflicts and maintain coexistence.

Since the illegal trade in elephant body parts is transnational, strong law enforcement backed by good intelligence and information management between adjoining countries becomes vital to save elephants, where regional entities such as the South Asia Wildlife Enforcement Network (SAWEN), are essential to bring cross-country coordination in curbing the illegal trade. The role of security agencies, IUCN SSC AsESG, conservation partner organizations, and academic institutions in the area of scientific research and knowledge are very important and range States will need such technical support to develop the methodologies and protocols for assessing Asian elephant populations.

The future of elephants lies in our hands. Lastly, Dr. Kandel called upon all the range countries to give highest priority in the conservation and management of elephants and their habitat.

### Inaugural Remarks

Honorable Minister Ramsahay Prasad Yadav, Ministry of Forests and Environment, Nepal, extended his warm welcome to the meeting delegates and participants in Kathmandu. Minister Yadav underlined the importance of this meeting for assessing the progress among the range States, and devising strategies for future actions for the conservation of Asian elephants. Nepal is among few countries endowed with exceptionally rich biodiversity and the Government of Nepal has taken many important steps to conserve its biological wealth for ecosystem health and prosperity. In its long history of conservation, Nepal has

brought transformative conservation policies, such as buffer zone management for ensuring community participation in conservation. With the support from national and international communities, Nepal seeks to intensify the conservation measures in the days to come.

Elephants and people, as they compete for shrinking forests, often come into conflict resulting in a loss of crops, property, as well as the lives of both humans and elephants. Despite the efforts to conserve this magnificent species over the last few decades, it has been a challenge to conserve wide-ranging mega-herbivores in a human dominated landscape in most of the range States. Thus, the scientists, donor communities, and other stakeholders need to work together to devise better plans and strategies for ensuring human-elephant coexistence.

Nepal is committed to the cause of conservation and dedicated, to the extent possible, to conserve elephants and their habitats. Nepal's efforts for Asian elephant conservation can be fruitful with the support of the range countries, international agencies, donor agencies, conservation partners, and local communities. This meeting provides the opportunity to bring government representatives from all the Asian elephant range States, experts and conservationists together, and this will certainly add more energy in the course of our conservation journey.

Minister Yadav expressed his confidence in this meeting to come up with fruitful outcomes to mark a turning point in elephant conservation. Range States should recommit themselves to redirect the combined efforts and resources to these ends. Finally, Mr. Yadav wished for a successful meeting, affirmed Nepal's strong commitment to the conservation of Asian elephants and other endangered species, and requested national and international community for their support.

## The Sessions

The proceedings of the meeting were in ten sessions. The sessions were broadly aimed at gathering range level status on Asian elephant conservation, discussing key issues pertaining to the conservation of Asian elephants, and launching the *Kathmandu Declaration for Asian Elephant Conservation*. The sessions conducted as per the presentation format provided by the organizing committee were as follows.

- 1) Asian Elephant Conservation Status – Brief Country Presentations
- 2) Management of elephant corridors as strategies for habitat fragmentation
- 3) Minimising impacts of linear infrastructures on elephant habitat
- 4) Strategies and best practices for managing human-elephant conflict
- 5) Mapping the distribution of elephants across Range States
- 6) Captive elephants health care and welfare, and emerging diseases affecting Asian elephants
- 7) Strengthening transboundary co-operation
- 8) Funding support for Asian Elephant Conservation
- 9) Preventing illegal wildlife trade
- 10) Developing text for the “The Kathmandu Declaration for Asian Elephant Conservation” and Launching Ceremony

The following sections contain the summary of the sessions, including the knowledge and experience shared, the issues raised, and suggestions and recommendations provided by the meeting participants 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
- Elephant conservation issues within the country
- Threats and causes for elephant mortality within the country
- Country specific protocols, guidelines, or National Elephant Action Plan
- Asian elephant conservation initiatives and priorities in the country

#### **Session Chaired by Dr. Ram Chandra Kandel, DG, DNPWC, Nepal**

##### Nepal

*Presenter – Mr. Bed Kumar Dhakal, Deputy Director General, Department of National Parks and Wildlife Conservation*

##### Wild elephant population

Estimated wild population is 203 to 277 individuals, based on 2020 census. Nepal has 12,069-km<sup>2</sup> (8.18% of country’s total land area) suitable elephant habitat. Terai and Siwalik regions are the main elephant habitats. Wild elephants are present in six small populations– Jhapa (19), Koshi Tappu (16), Sindhuli-Sarlahi (8), Chitwan-Parsa (45), Banke-Bardia (113) and Shuklaphanta (26). Four of these populations are inside protected areas and two are outside protected areas. Gandaki river separates western and eastern

populations. Except for a few residential individuals, almost all the elephants have India-Nepal transboundary movement. The wild population is in increasing trend, compared to the 1970s data (50 individuals), and increased by fourfold.

### Captive elephant population

Nepal has 176 captive elephants, 99 elephants are government owned and 77 elephants are privately owned. Chiwan National Park has the highest number of captive elephants (more than 100), remaining captive elephants are managed in Bardia, Parsa, Shuklaphanta National Parks and Koshi Tappu Wildlife Reserve. Government owned elephants are used for patrolling, problem animal capturing, wildlife research and rescue operations. Private elephants are used in ecotourism activities and their use mainly in safari rides is gradually decreasing in Nepal. Wild bulls are only source for captive breeding in Nepal. Last five years of captive breeding has resulted in 36 newborn babies in captive facility.

### Elephant conservation issues

- Habitat loss and fragmentation
- Human-elephant conflict
- Large linear infrastructures
- Transboundary movement
- Small and isolated population

People's migration from hills to the Terai after malaria eradication in the 1960s is the main reason for loss of forest and habitat. This ultimately results in human-wildlife conflict. Linear infrastructures (highway, railway, irrigation canals, and high-tension lines) also cause habitat fragmentation. Demand for infrastructure development is massively increasing which will continue to be a very big conservation threat in the future. Change of forests to other land is causing habitat loss and a hindrance to transboundary elephant movements. Newly developed settlements in the border areas, especially in the bottleneck areas create challenges to managing movement corridors. Small and isolated populations are a result of human settlement, growing urban expansion, and infrastructure development, which prevents habitat connectivity, sub-populations from mixing, and pose risk of local extinction from stochastic events.

### Threats for elephant conservation in Nepal

- Limited space due to habitat loss and fragmentation
- Retaliatory killing
- Poaching and illegal trade
- Emerging disease (EEHV, ETB)
- Climate induced disasters (prolonged drought, drying wetlands, fire, and high flood)

Between the 1930s and 2020, Nepal lost about 20% of the Terai forests due to conversion to other land use practices. These forests were ideal habitats for elephants; but due to the loss of habitats and increasing conflicts, Nepal lost 35 elephants from electrocution in the last 20 years. Similarly, 7 cases of elephant poaching were recorded and two seizures were made in illegal trade of elephant parts in the last 20 years.

Elephant herpes virus (EEHV) and elephant tuberculosis (ETB) are emerging as threats for long-term survival of elephants.

### National Elephant Conservation Action Plan

Elephants are fully protected by the National Parks and Wildlife Conservation Act (2073), CITES Act and other regulations. Nepal developed a national level Elephant Conservation Action Plan (2009-2018) with special emphasis on saving elephants from extinction in the wild, resolving habitat destruction immediately, and reducing related conflicts between human and elephants. The plan emphasizes conservation at landscape levels and create ecological corridors to connect fragmented populations for their genetic viability. The updated action plan for 2022 to 2027 is in the final stage of approval.

### Priorities for Asian elephant conservation

- Minimize human-elephant conflict
- Habitat restoration, maintain corridors and connectivity
- Strengthen transborder cooperation with India
- Management of diseases
- Research and monitoring
- Climate change minimization
- Building community stewardship

Some of the priority actions in the *Jakarta Declaration (2017)* are being adopted by Nepal as prioritized activities for Asian elephant conservation. Different activities are in practice in Nepal to minimize and manage HEC that includes physical barriers (fences), use of trenches to delay elephant movements where early warnings are used, and relief programs. Habitat restoration and management activities are also conducted in and outside protected areas. Efforts to strengthen law enforcement are ongoing, especially to protect corridors and bottlenecks from encroachments. Nepal and India have signed an MoU to strengthen collaboration for transboundary conservation which needs to be renewed. Regular transboundary meetings are held between the two countries. DNPWC is coordinating with different line agencies, including the livestock department to give emphasis to veterinary health care to wildlife. Research and monitoring activities include radio collaring problematic wild bulls to study their behaviour and monitor movement patterns and minimize HEC. Addressing impacts of climate change on Asian elephants will need extending habitats in the Siwalik range. Different community engagement activities conducted include buffer zone programs, community forestry programs, and various alternative livelihood programs in affected communities.

## India

*Presenter – Mr. Ramesh Kumar Pandey, Inspector General of Forests, Indian Forest Service, Ministry of Environment, Forests and Climate Change*

### Wild elephant population

Elephants are distributed across 120,000 km<sup>2</sup> (about 4% of the country) in four regions – northern, north-eastern, east-central and southern and occurs in 21 out of 35 states. Northeast and southern regions hold the

larger elephant populations. India has 31 Elephant Reserves (ERs) across 14 states covering 67,502.9 km<sup>2</sup>. ERs emanate from the concept of ‘landscape approach’ and include not only forest but also areas around forests that are influenced by elephants. India initiated the Project Elephant in 1998 for conserving elephants across the country. All landscapes identified under Project Elephant have come under the ERs, and new ERs such as the Lemru Elephant Reserve (2,000 km<sup>2</sup>) in Chhattisgarh state continue to be established. Approximately 150 migratory elephants from Nepal have become residential in Dhuwa National Park and Pilibhit Tiger Reserve because of obstructions in their transboundary movement to Nepal. As a result, the state of Uttar Pradesh is planning to declare a new Terai ER in this landscape. Based on the 2017 census, India has approximately 30,000 elephants at present (60% of total Asian elephant population) which has been in increasing trend since 1980s. In 2022, for the first time, a synchronized elephant population estimation is being conducted for All India Tiger Estimation, using camera trap images and DNA fingerprinting.

In 2010, some 80+ elephant corridors were identified in India. Subsequent studies conducted by Wildlife Trust India and other stakeholders have updated this number to be about 100 corridors in 2017. Revalidation and evaluation of these corridors is presently being undertaken for future corridor management activities.

### Captive elephants in India

Elephant capture and training adopted in India dates back to the Indus valley civilization, almost 4,000 years ago. India harbors 21% of global captive elephant population. Captive elephant census is not regularly done in India. Based on census of 2018, there are 2,675 captive elephants, out of which 1,821 are privately owned and rest are government owned. Improving captive elephant welfare and providing humane care is one of the mandates of Project Elephant, which provides strong legal provisions to improve welfare conditions. Project Elephant has also engaged in capacity enhancement of veterinarians and handlers to improve captive elephant welfare. Project Elephant, in collaboration with State Forest Departments, has embarked on estimating elephant population and individual elephant identification using DNA profiling of captive elephants in India. Management of captive elephants has some contentious issues, their population is increasing and mixing with wild elephants, data from DNA profiling could be a solution solve these issues.

### Major challenges facing elephant conservation in India

- Human–elephant conflict, despite best efforts by the Government is increasing
- Over 40% of Elephant Reserves are outside PA/forests, regulating incompatible land-use continues to be a challenge
- Elephant corridors that fall outside PA/RF
- Elephants dispersing into human-dominated areas remain a challenge
- Threat from infrastructure development to elephant habitats
- Trans-boundary elephant movement: Issue calls for improved active bilateral and international cooperation
- Captive elephant welfare: Scope for betterment

Elephant Reserves (ERs) still do not have the statutory provisions as the Tiger Reserves do. Since 40% of ERs are outside protected areas, management in these areas have challenges. Management of corridors, because most fall outside protected areas, is also a big challenge and needs management framework to

involve communities and stakeholders. Lot of exploratory movement of elephants are also happening leading to their dispersal into human-dominated areas, including in areas of no previous elephant presence, such as central India. These are a result of fragmentation of habitats, linear infrastructures and deficiency in their existing habitats for food and space. India has guidelines for creating mitigation measures to minimize impacts of linear infrastructures on elephants. Since most range States are developing countries, the burden of development impacts to wildlife will be there and the challenges in creating a win-win situation by bringing development and conservation in balance are great. SOPs for health management of captive elephants and standards for registration of details of captive elephants are still not in place in India.

HEC is in increasing trend in India. HEC claims about 500 human lives and 100 elephants annually. Over 1 million hectares of agricultural lands affecting over 500,000 families are impacted. More than 50% of expenses incurred by Project Elephant goes for HEC mitigation. HEC continues to create animosity towards elephant conservation in India. The challenge is in efficiently compensating the affected people.

#### Protocols and guidelines on managing elephants and conservation initiatives

- Guidelines for management of human–elephant conflict issued by Project Elephant, Government of India during 2017
- Guidelines on standard norms for recognition of elephant rehabilitation centres under Wildlife (Protection) Act, 1972 issued on 29/09/2017
- Ready-to-use field manual on conflict management prepared in collaboration with other organizations
- Preparation of National Elephant Action Plan
- Centralized database management on HEC
- Capacity enhancement of State Forest Departments through structured, rigorous field and off-field trainings
- Other outreach activities
- Other initiatives of Project Elephant, Government of India
  - Declaration of new Elephant Reserves
  - Trans-boundary elephant conservation with neighbouring range countries
  - Data on illegal killing of elephants and ivory seizures sent to MIKE (Monitoring the Illegal Killing of Elephants) and ETIS (Elephant Trade Information System)
  - Concerted efforts by Project Elephant, State Forest Departments and Wildlife Crime Control Bureau of India in combating illegal elephant trade
  - Constitution of Central Project Elephant Monitoring Committee (CPEMC) to critically examine conflict management and elephant conservation issues
  - Constitution of captive elephant welfare and healthcare committee to ensure the welfare of captive elephants

#### Bangladesh

*Presenter – Mr. Sayad Mahmudur Rahman, Mammologist, Bangladesh Forest Department, Ministry Environment, Forests and Climate Change*

#### Status of wild elephants

The Asian elephant population in Bangladesh is categorized as endangered. Elephants are in jeopardy in Bangladesh due to negative impacts deriving from food scarcity, habitat loss and degradation, and direct killing. Bangladesh suffers from HEC, moulded in human killing, crop raiding, resource damage and ultimately the vengeance killings of elephants by affected communities. Fragmentation of elephant movement routes and corridors due to encroachment, agricultural expansion, establishment of settlements also directly intimidates the survival of the wild elephant population in nature.

The resident wild population numbers 268 (range 210 to 330) with wet season density of 0.25/km<sup>2</sup>, dry season 0.22/km<sup>2</sup>. The elephant population in the southern part of Bangladesh is gradually increasing (38 elephants in 2018 compared to 35 in 2015 in the five forest ranges in Cox's Bazar, South Forest Division). The migratory wild population is 93 individuals (range 79 to 107). The study identified 52 elephant routes, 12 corridors and 57 transboundary elephant crossing points. Elephants are distributed in south-eastern hills, mainly Chittagong and Cox's Bazar where migratory elephants from India roam; and the north-eastern area where migratory elephants from India and some elephants from Myanmar are found. Due to the Rohingya crisis, one of the most used movement corridors present in the landscape is blocked hindering transboundary movement.

#### Status of captive elephants

Bangladesh has 96 captive elephants (42 males and 54 females).

#### Elephant conservation issues

- Issues in wild population
  - Human-elephant conflict is one of the most serious conservation challenges
  - Crop cultivation is increasing near the elephant habitat
  - There are 12 elephant corridors and 57 transboundary elephant crossing points and the corridors currently do not have legal protection
  - Wrong use of electricity to deter elephants from crop fields, which increases elephant deaths
  - Inadequate research and knowledge management
  - Inadequate institutional capacity
  - Lack of education, awareness and collaboration
- Issues in captive elephants
  - Lack of wildlife veterinarians for captive elephants
  - Lack of knowledge to manage elephants in *musth*, which often causes human and elephant casualties as well
  - The elephant owner and *mahut* do not have formal training in elephant care

#### Main threats and causes of elephant mortality

- Wild population
  - Encroachment, habitat fragmentation and conversion of elephant habitat to crop fields
  - Increased HEC and primitive and deadly methods to prevent HEC
  - Scarcity of food and water especially during dry season
  - Elephant poaching
  - 16-31 people and 3-5 elephants die due to HEC every year

- Captive elephants
  - Lack of wildlife veterinarians and dedicated animal hospital for wildlife

### National Elephant Conservation Action Plan

Bangladesh has prepared the Elephant Conservation Action Plan (2018-2027). An MoU is signed with India to manage transboundary elephants.

### Addressing priorities of 2017 Jakarta Declaration

- Bangladesh has prepared the Elephant Conservation Action Plan 2018-2027
- Bangladesh has completed a detailed feasibility study for establishing trans-boundary wildlife corridor in Chattogram, Chattogram Hill Tract and Cox's Bazar with Myanmar and India
- Based on this study, Government of Bangladesh is going to declare conservation corridors
- Government of Bangladesh is going to develop a project for the conservation of elephants from revenue fund (estimated cost of this project is about \$ 5.6 million)
- Based on this project, the government will take larger project for elephant conservation in future
- Bangladesh government formulated a compensation policy for the wildlife victims in 2011 which has been upgraded to Wildlife Victim Compensation Rule in 2017
- Government of Bangladesh has already given BDT 4.3 crore (about \$498 thousand) as compensation to elephant victims since 2011

## Bhutan

*Presenter – Mr. Ugyen Tshering, Chief Forestry Officer, Department of Forests and Park Service, Ministry of Agriculture and Forest*

### Status of wild elephants

Bhutan conducted its first nationwide elephant survey in 2018, surveying 8,000 km<sup>2</sup> of potential elephant habitat in eight districts and covering 21% of the country's total area. The survey estimated 678 elephants (range 605-761) with sex ratio of 1:2.3. Radio collar based home range estimation suggested 400.95 km<sup>2</sup> for females and 232.78 km<sup>2</sup> for males. Elephants are under Schedule 1 of the Forest and Nature Conservation Act of Bhutan.

### Status of captive elephants

Bhutan has only 9 captive elephants (after 1 captive elephant died recently). Captive elephants are used in anti-poaching patrols and to transport forestry personnel and supplies during monsoon seasons.

### Elephant conservation issues

- Human-elephant conflict
- Habitat fragmentation and loss
- Habitat degradation

- Migratory route blockage

Most prominent issue is HEC and is increasing over the years. Construction of roads are fragmenting habitats and create blockage of migratory routes.

#### Threats and causes of elephant mortality

- Accidental death
- Unsafe infrastructure
- Poaching and illegal trade

Bhutan does not have many elephant mortality cases, but a few cases arise from accidents such as electrocution and falling off the cliffs. Unsafe infrastructure, such as irrigation dams, garbage pits have also lead to some elephant deaths. Poaching and illegal trade is not significant in Bhutan (only few cases) but there are chances that it will increase in border areas since there are identified trade routes along the borders.

#### National Elephant Conservation Action Plan

Bhutan has an Elephant Conservation Action Plan (2018-2028) with objectives to (i) improve habitat and prevent habitat loss, (ii) reduce HEC, (iii) increase knowledge base on elephants and their habitats, (iv) improve coordination with stakeholders including transboundary partners, (v) prevent poaching and illegal trade, (vi) improve management of captive elephants, and (vii) identify and address current and emerging diseases.

#### Elephant conservation initiatives

- Habitat management by removal of non-palatable species and creation of waterholes
- Intensive patrolling especially in border areas
- Electric fences for mitigating HEC

## Cambodia

*Presenter – Dr. Leung Kesoro, Deputy Director, General Directorate of Natural Protected Areas, Ministry of Environment*

#### Status of wild elephants

Since the last eight years, Cambodia has been increasing the coverage of protected areas, now it has 75 protected areas covering 5.8 million ha covering about 41% of the country's total area. Biodiversity conservation corridors cover 1.4 million ha. Studies from 2010 to 2021 have confirmed elephant presence inside 19 protected areas but this finding needs to be finalized through a national workshop. The population has dramatically declined since the 1900s, and the current population is estimated to be 400-600 elephants. Two main elephant populations are present in Greater Cardamom Landscape (175 individuals) and Eastern Plain Landscape (>250 individuals); and three small fragmented populations are present in Prey Long Wildlife Sanctuary (22 individuals), Chheah Wildlife Sanctuary (11 individuals), and Preah Roka Wildlife Sanctuary (8 individuals). These estimates will be concluded in a national workshop.

### Status of captive elephants

Cambodia has 71 captive individuals in community ownership, co-ownership between community and organizations and zoos. Animal health and welfare is poor, there are no breeding facilities. Legislation banning capturing of wild elephants for captivity has stopped the increase in number of captive elephants. No official system for registration and transfer of ownership exists. Wild elephants tend to disperse into areas with captive elephants and cause crop and property damage, increase stress on captive elephants and even death of captive elephants.

### Threats to Asian elephant conservation

- Hunting
  - By-catch (snares) and targeted
- Habitat loss, conversion and fragmentation restricting population movement
  - Large scale plantations and mines
  - Small scale agriculture
  - Infrastructure development and urban expansion
- Increased accessibility throughout protected area networks
  - Loss of habitat
  - Disturbance from logging/hunting (separation of young)
- Retaliatory killings (HEC)
  - Reduced tolerance of raiding elephants
  - Poisoning of transboundary population
  - Population decline in transboundary populations
  - Increased stress on elephants
  - Retaliatory/anger killing

### Challenges in elephant conservation

- Limited funding and resources in research, law enforcement and protected areas management
- Higher poaching rate and illegal trade
- Habitat conversion and fragmentation
- Small population sizes distributed in many protected areas
- Data gaps in population figures and movements
- No landscape wide spatial planning
- Lack of country wide protected areas zonation and management plans
- Limited facilities and capacity on veterinary care/disease control
- Limited knowledge on mitigating and managing HEC

### National Elephant Conservation Action Plan

Cambodia has developed its Asian Elephant Conservation Action Plan (2020-2029). Some of Cambodia's current and future plans include: updating wild and captive elephant populations, updating elephant distribution maps, collaring for understanding elephant movements, crack down domestic illegal wildlife markets, study transboundary populations and movements (between Vietnam, Lao PDR and Thailand),

protect elephant movement pathways, develop HWC mitigation and management plans, build capacity by using CITES MIKE, and develop transboundary action plans.

## China

*Presenter – Mr. Cheng Fei, Director, Asian Elephant Research Center, National Forestry and Grassland Administration*

### Status of wild elephants

The number of wild Asian elephants in China is about 300, which is derived from 2018 statistics. Wild elephants are mainly found in Yunnan province in Southwest China. Elephant surveys are done using camera traps, drones, and ranger tracking for synchronous surveys, with high accuracy.

### Status of captive elephants

China has about 200 captive elephants. Captive breeding institutions are required to have the infrastructures, veterinarians, breeders and other professionals, as well as proof of legitimacy of the source of elephants, and approved by the National Forestry and Grassland Administration. The National Forestry and Grassland Administration tag individual captive elephants with microchips, which are also used for providing health service. The sale, purchase, utilization, import and export of Asian elephants also need approval from the National Forestry and Grassland Administration.

### Asian elephant conservation issues

- Issues for wild elephants
  - Some populations spread and migrate frequently (eg. a herd of 12-15 elephants migrated long range to northern China that became global headlines)
  - Some populations are isolated
  - Wild population numbers are in increasing trend due to strong protection
  - Wild elephants come into conflicts with humans
- Issues for captive elephants
  - Low population size
  - Difficulties in cross-regional breeding
  - Prevalence of disease such as elephant herpes

### Main threats and elephant mortality causes

- Wild elephants
  - Due to strict protection, no cases of unnatural death have been found in recent years
- Captive elephants
  - Diseases such as Elephant endotheliotropic herpes virus (EEHV)

### National Elephant Conservation Action Plan

China has developed region-wide conservation action plans for Asian elephants (5 and 12-year plans) and more detailed plans have been formulated for each protected areas. Guidelines for investigation and rescue of wild Asian elephants have been established.

## Addressing priorities of Jakarta Declaration

- 11 nature reserves established to conserve Asian elephants
- In process to establish Asian Elephant National Park in southwest China
- Conservation of transboundary elephants
- Corresponding protective measures, intelligent monitoring and early warning systems
- Compensation insurance
- Strict laws and regulations, strengthened law enforcement
- International cooperation, coordination and communication
- Technical specifications for captive elephant management, artificially assisted reproduction and many other guidelines
- Chip implant technology to monitor captive elephants
- Region-wide action plans are in place

## Indonesia

*Presenter – Mr. Krismangko, Policy Analyst, Directorate of Biodiversity Conservation, Ministry of Environment and Forestry*

### Status of wild elephants

Indonesia has two elephant subspecies - Sumatran elephants (*Elephas maximus sumatranus*) and Bornean elephants (*Elephas maximus borneensis*) that are subspecies of Asian elephants (*Elephas maximus*). Sumatran elephants are critically endangered and Bornean elephants are endangered in IUCN Red List. Sumatran elephants occupy almost the entire island of Sumatra with estimated population of 924-1,359 individuals. Bornean elephants are found in north-eastern Borneo with population of 4-20 individuals. Nineteen of the 21 pockets of Sumatran elephant habitat (43.13% of total habitat) under plantation regimes will be free of plantations.

### Threats to Asian elephant conservation

- Poaching and illegal trade
- Human-elephant conflict
- Isolated populations

### National Elephant Conservation Action Plan

Indonesia has developed Indonesia Elephant Conservation Action Plan (2021-2030). Programmes and priorities of the plan include – (i) elephant population and habitat protection, (ii) HEC mitigation, (iii) habitat restoration and population recovery, (iv) funding through trust fund and strategic partners, (v) captive elephant management, (vi) policy in line with national mid-term development plan.

### Way forward

- Protect, restore and conserve Indonesia wild elephant and its habitat (actively managed habitat)
- Manage Indonesian wild and captive elephant sustainably

- Collaborate with diverse partners
- Community welfare
- HEC management

## Lao PDR

*Presenter – Mr. Chanthone Phothitay, Deputy of Wildlife Management and CITES Convention Division and Dr. Teuanchay, National Protected Areas Management Division, Department of Forestry*

### Status of wild elephants

Lao PDR's wild elephant population is estimated 300-400 individuals, recorded by field survey, studies, community interviews and DNA methods.

### Status of captive elephants

Captive elephants are recorded 350-450 individuals, recorded by elephant register, microchip numbers and the elephant monitoring by Elephant Conservation Centre (ECC).

### Challenges to Asian elephant conservation

- Insufficient funding and limited elephant expertise
- Illegal poaching and elephant part produce, trade
- Habitat connectivity
- Knowledge on elephant ecology and their habitat management
- Human-elephant conflict
- Illegal poaching and trade
- Habitat/land use planning and management
- Infrastructure development
- Weak law enforcement

### Threats to Asian elephants

- Loss of habitat: forest land conversion, logging, over collection of NTFPs, infrastructure development, habitat loss and fragmentation
- Poaching, trade of ivory, bone
- Human-elephant conflict (HEC) and the killing of elephants
- Forest fires
- Insufficient funding and limited elephant conservation specialist/expertise
- Lack of law enforcement on trade, poaching (investigation, prosecution)

### Issues in Asian elephant conservation

- Wild elephants
  - Habitat loss and fragmentation
  - Illegal poaching and killing by conflict
  - Increased human-elephant conflict

- Poor public awareness
- Captive elephants
  - No breeding programs
  - Lack of proper care, and cruelty to elephants
  - Registering elephant, microchip numbers and monitoring elephant movement
  - Dearth of funding for food costs

### National Elephant Conservation Action Plan

Lao PDR has its National Elephant Action Plan (2022-2032) in place. Other relevant plan includes National Ivory Action Plan of Lao PDR (2020-20250).

### Peninsular Malaysia

*Presenter – Mr. Salman bin Saaban, Director of Protected Areas Division, Department of Wildlife & National Parks Peninsular Malaysia, Ministry of Energy and Natural Resources*

#### Status of wild elephants

Peninsular Malaysia has 1,220 – 1,680 wild elephants as per estimates in 2011. Present priority is more on tigers as they are in risk of extinction in the next 5 to 10 years. Since there are no dedicated budgets for elephants, efforts are ongoing to combine DNA sampling, camera trap data of 1st National Tiger Survey, enforcement patrolling reports, drone-based monitoring data in conflict areas and direct observation from HEC operations to arrive at new estimate next year.

#### Status of captive elephants

There are 86 captive elephants (26 males, 60 females). Special permits are required for privately owning the elephants, which are mainly used in ecotourism. Captive elephants are microchipped for reporting and auditing purposes. All captive elephants belongs to the government of Malaysia.

#### Main threats to Asian elephants

- Habitat loss – forest conversion to monocrop plantation (mainly oil palm)
- Habitat fragmentation - linear construction, agriculture activities, human settlements, road-kills
- Habitat degradation – natural forest turns to forest plantation, loss of saltlicks, lack of food
- Human-elephant conflict (HEC) – retaliation killing, electric-fencing cut-off historical routes
- Illegal killing – Poaching, poisoning, wire-snaring

Habitat loss is a major threat to elephants in Peninsular Malaysia. During the period 2010 to 2019, there was a reduction of forested land in Perak, Kelantan, Pahang and Johor by 153,917 ha. The area of Permanent Forest Reserve also showed a reduction of 115,047 ha in the same period, especially in the states of Johor, Pahang, Terengganu, and Kedah. Land development for agricultural activities is also a major cause of elephant habitat loss. For example, in the 1960s and 1970s, many lowland forest areas were converted for monocrop like oil palm and rubber plantations in line with the Government's policy at the time to eradicate poverty, especially for the rural populations. Apart from that, hydroelectricity projects related dam construction. such as Kenyir Dam, Temenggor Dam, Hulu Terengganu Dam has caused thousands of

hectares of elephant habitats to be inundated. Rapid development and the opening of areas for new settlements and towns have resulted in the construction of roads separating existing elephant habitats.

Habitat fragmentation also cannot be avoided when many new roads or highways were developed and then creating new settlement of new township. Sometimes elephant road-kills are reported when elephants try to cross the road with speeding and heavy traffic. Habitat degradation also happens when logging activities conducted destroy the saltlick and the natural forests are converted into forest plantation.

Human-elephant conflict (HEC) is also the main threat for elephants when frustrated farmers take their own action without referring first to Department of Wildlife and National Parks (DWNP). The erection of electric fencing system mainly by big plantations company could also cause historical movement routes of elephants being cut-off. Without providing the corridors for elephants to move, it would cause HEC in such areas. Besides the retaliation killing of elephants, other illegal killing such as poaching, poisoning and accidentally wire-snaring are considered as main threats for elephant populations in Peninsular Malaysia.

The number of HEC complaints received by the DWNP in 2015 to 2021 was 3,325 complaints (average of 475 complaints a year). The complaints received showed an increase of 143% in 7 years. The state of Kelantan recorded the highest rate of elephant conflict complaints at 1,255 (37.7%) complaints or an average of 180 complaints a year and was followed by the state of Johor at 658 complaints (19.7%). Negeri Sembilan recorded the lowest number of elephant conflict complaints at only 14 complaints (1%) compared to other states. This is because the number of elephants in that population is the smallest compared to other states. Apart from that, an estimated loss of RM 42.4 million due to the elephant conflict was recorded in all states involved during the period of 2015 to 2021 where State of Kelantan recorded the highest loss rate of RM17.6 million, while Negeri Sembilan recorded the lowest loss of RM 32,000. Most of the losses are due to the destruction of oil palm crops which are the agricultural areas most frequently invaded by wild elephants for food.

#### Main threats and causes of elephant mortality

Main threats to elephant mortality are illegal killing (mostly poaching) and management. During 2015 to 2021, 106 cases of elephant mortality were reported of which 34% (40) of the incidents involved illegal killing of elephants and 22% (25) were due to management. Eighteen deaths were from natural causes, 13 deaths from unknown causes and 20 were from other causes. In addition, the high demand for the use of ivory for social status and ivory-based industry in neighbouring countries has led to elephant poaching activities still occurring, especially in the forest edge areas that are easily accessible by four-wheel drive vehicles.

#### National Elephant Conservation Action Plan

National Elephant Conservation Action Plan (2013-2022) has 72 action plans under five pillars- i) habitat management, ii) enforcement, iii) conflict management, iv) best practices, and v) research. The plan is under revision and next plan is expected to be ready by end of 2022.

#### Achieving the priorities of Jakarta Declaration

- Strengthening the protection of elephants to counter the illegal killing of elephants through the Biodiversity Protection & Patrolling Program (BP3)
- Initiating the development of elephant sanctuaries to overcome HEC while creating the socio-economic opportunities for the local community

- Establishing safe passage for elephants and other wildlife in Gerik Ecological Corridor

## Sabah Malaysia

*Presenter – Mr. Augustine Tuuga, Director of Sabah Wildlife Department, Ministry of Tourism, Culture and Environment*

### Status of wild elephants

Elephants in Sabah Malaysia occur within three managed elephant ranges (MERs) - Lower Kinabatangan, Tabin, and Central Sabah. Estimated wild elephant population is 1,000-1,500 individuals. A recent published study in 2022 estimated 387 elephants in Central Sabah, surveyed using the dung count method. If this study is completed, there could be about a total estimate number of 451 individuals for the Central Sabah range.

### Status of captive elephants

Sabah does not have tradition to tame and train elephants. Sabah has 23 captive elephants (16 male, 7 female) in various facilities such as rehabilitation centres, elephant sanctuaries, and wildlife parks, most are abandoned calves that came under institution care. Most captives are sub-adult (11) and adult (8). No proper registration for captive elephants yet, all are owned by the government.

### Elephant conservation issues

- Wild population
  - Human-elephant conflict (HEC) – mainly in oil palm plantations
  - Increase in elephant deaths due to suspected chronic poisoning from chemicals used in agricultural landscapes
  - Lack of resources (funds and manpower) to address the threats
  - Lack of general awareness by the public on issues related to elephants
  - Infrastructure development in elephant habitat that does not incorporate their requirements
  - Poor understanding of several key scientific questions (eg: mortality rates, birth rates, sex ratio)
- Captive population
  - Increasing number of orphaned juvenile elephants brought into captivity
  - Lack of capacity of staff in charge of implementing best practices for ex-situ management, veterinary care and medical management, management of *musth* bulls
  - Lack of funds for constructing proper facilities and enrichment program
  - Lack of expertise in captive animal management

### Threats and elephant mortality causes

- Main threats
  - Habitat loss and fragmentation
  - Human-elephant conflict (HEC) and retaliatory killing due to HEC
  - Suspected chronic poisoning from chemicals used in agricultural landscapes
  - Infrastructure development in elephant habitats that does not incorporate their requirements

- Main causes of elephant mortality
  - Gunshot wounds as a result of retaliatory killing due to HEC and poaching for ivory
  - Suspected chronic poisoning from chemicals used in agricultural landscapes
  - Natural causes (e.g.: still birth, fights) and traumatic injury
  - EEHV in captive elephants

### National Elephant Conservation Action Plan

The Bornean Elephant Action Plan (2020-2029) was endorsed by the Sabah government in 2020. The 10-year action plan outlines the objectives such as stepping up protection and stopping the killing of Bornean elephants; enhancing habitat connectivity and permeability; ensuring best practices in the management and ex situ conservation of elephants; and researching, monitoring and predicting elephant population trends. The government has agreed, in principle, to allocate RM 20 million to implement the plan over 10 years. In this regard, a new office - Endangered Species Conservation Unit was established recently.

### Addressing the priorities of Jakarta Declaration

- Bornean Elephant Action Plan 2020-2029 developed with assistance of several NGOs
- Partnered with NGOs (WWF & Seratu Aatai) and District Offices to manage HEC through landscape level working groups and capacity building of communities to better manage HEC
- Collaborated with international zoos and captive wild animal welfare NGO (eg: Oregon Zoo, Wild Welfare) to ensure that staff are trained to provide better welfare for captive elephants and shared expertise
- Ongoing collaboration with the National Poison Centre to identify chemicals/heavy metals (such as cadmium) which are potentially causing chronic poisoning of elephants
- Ongoing bilateral engagement between Sabah and North Kalimantan local governments to secure a transboundary corridor and to combat the trafficking of ivory across the border with assistance from WWF

## Myanmar

*Presenter – Mr. Hla Myo Aung, Deputy Director, Nature and Wildlife Conservation Division, Forest Department*

### Status of wild elephants

Myanmar has established 7 protected areas covering 25,800.96 km<sup>2</sup> for conserving Asian elephants. The country has more potential habitat remaining than other range countries amounting to ~170,000 km<sup>2</sup>, based on 2003 data. Previous wild population estimates vary greatly between the surveyed years. According to the 2008 estimate conducted using camera trap data, distance sampling, and direct and indirect observations, the population is estimated to be between 1,200 to 2,000. Wild population is believed to have increased since 2008.

### Status of captive elephants

Myanmar estimates about 5,000 captive elephants and the government owns 2,975. Captive elephant registration process is difficult in Myanmar and 4,444 (1977 male, 2467 female) captive elephants are registered as of 31<sup>st</sup> March, 2022. All captive elephants are registered through the Forest Department. All elephants above 5 years age require registration. Registrations are renewed every 3 years. Awareness programs are needed to encourage registration of captive elephants. About 1,550 captives are estimated to be privately owned and not all individuals have been registered.

#### Elephant conservation issues

- Wild population
  - Increasing poaching for skin, tusks and meat
  - Increased HEC
  - Habitat loss and degradation
- Captive elephants
  - Management challenges for large captive elephant population
  - Diseases – inadequate surveillance and screening
  - High cost of managing captive elephants and limited staff
  - Less area of grazing and browsing and their movement
  - Illegal trade (smuggling into neighbouring countries)
  - Lack of government interest and management policy

HEC is highest in places where logging occurs and where forests are converted to agriculture lands. HEC is common in Mandalay, Ayeyarwady, Yangon, Rakhine, Bago and Taninthayi regions. In recent years, human and elephant deaths from HEC have reached to critical highs. Townships in Bago, Yangon and Ayeyarwady regions often experience 2 to 4 human deaths/year, increasing the country average to well above 12 human deaths/year.

#### Threats and causes of elephant mortality

- Poaching for skin, tusk, meat and illegal trade
- Habitat loss, and encroachment of habitats
- Legal, illegal and revenge killing due to weak law enforcement
- Illegal capture of wild elephants for captivity and trade
- Inappropriate and poorly executed management activities
- Small population size
- Disease
- Direct disturbance to wild elephants
- Lack of protocols for veterinarian service

Elephant mortality rate is uncertain with some years recording less than 5 cases while at least 25 deaths were recorded between 2013 to 2018 and jumped to 38 in 2017. Elephant deaths have occurred mostly in the Ayeyarwady region. Overall poaching/illegal killing rates have increased by 70% between 2016 to 2018. Poaching is motivated by ivory trade, primarily to China and Thailand. Myanmar destroyed its wildlife stockpile worth US\$ 1.5 million consisting of elephant tusks and other wildlife parts in 2018.

Another lot of wildlife stockpiles of 766.11 kg were destroyed in 2019. From 2015 to 2018, seven wildlife criminals were arrested in the country.

### National Elephant Conservation Action Plan

Myanmar Elephant Conservation Action Plan (2018-2027) has two main parts – 10 years strategies and implementation plans. Three year implementation plans have four main themes – (i) protection of wild elephants and habitats, (ii) mitigation of HEC, (iii) combating illegal trade, and (iv) management of captive elephants.

### Addressing priorities of Jakarta Declaration

- Maintaining 7 large protected areas
- Minimizing human impacts to elephants and habitats
- Enacted Conservation of Biodiversity and Protected Area law in 2018 which emphasizes on controlling poaching and illegal trade
- Strengthened collaboration, coordination and communication with international organizations such as CITES, INTERPOL and UNODC
- Developed captive elephant registration programs
- Ensuring welfare of captive elephants owned by the Forest Department
- Developed Myanmar Elephant Conservation Action Plan (2018-2027)

### **Captive Elephant Conservation in Myanmar**

*Presenter – Dr. Zaw Min Oo, Assistant General Manager (Veterinary), Elephant Section, Extraction Department, Myanma Timber Enterprise, Ministry of Natural Resources and Environmental Conservation*

- There are 3,247 timber elephants owned by Myanma Tiber Enterprise, 59 elephants owned by Forest Department and 103 private owned individuals according to 2020 microchip registration report. According to the Myanmar Elephant Conservation Plan, there are over 2,400 privately owned elephants in Myanmar
- Birth and death rates of captive elephants from 2017 to 2021 show a positive growth rate
- Causes of death are EEHV, suspected infectious disease, old age and other causes, old age is the main cause of deaths
- Management of the captive population is improved through mobile elephant clinics (4 are operating presently), and the initiation of microchip registration for both government and private owned elephants
- Threats to captive elephants
  - About 6 to 16 elephant calves have died annually due to EEHV since the past four years
  - Lack of research and health service to cure infectious disease
- Conservation initiatives for captive elephants
  - Free health care for private owned elephants
  - Microchip registration for all captive elephants
  - Veterinary assistant trainings

## Sri Lanka

Presenter – Mr. Manjula Amararathna, Director (Protected Area Management), Department of Wildlife Conservation, Ministry of Wildlife & Forest Resources

### Status of wild elephants

Countrywide survey in 2011 estimated Sri Lanka's wild elephant population to be 5,879 individuals but is believed to be higher.

### Status of captive elephants

Sri Lanka has 364 captive elephants, which are all registered - 115 individuals under National Zoological Department ownership and 249 individuals as private ownership. Presently, 215 captives are alive of which 102 are owned by the department and 113 are privately owned. All captive elephants should be registered under the Department of Wildlife Conservation and the license should be renewed annually. Registration of captive elephants has gone up since the issuance of regulation *Registration and Licensing of Tuskers and Elephants Regulation* - No 662/4 14.5.1991 under the Fauna and Flora Protection Ordinance.

### Issues in elephant conservation

- Wild population
  - Human encroachment, development projects and unsustainable land uses
    - Habitat loss
    - Loss of migratory routes
    - Fragmentation of forest areas
    - Shrinking of home ranges
  - Degradation of quality of habitats
    - Invasive species
    - Uncontrolled cattle grazing
    - Climate change
    - Garbage dumping sites close to protected areas
  - HEC
  - Insufficient staff & resources for elephant management activities
- Captive population
  - Aged population (most are above 50 years)
  - Owners unwilling to breed because there is no income for four years
  - No breeding stock
  - Lack of private owner knowledge to manage elephants
  - Lack of trained mahouts

### Threats and cause of elephant mortality

Elephant deaths are increasing since 2011, averaging at 281/year and peaking to 407 deaths in 2019. Annually, 350 elephants die due to conflict, poaching and natural causes; and 130 to 150 people are killed by elephants. Causes of deaths are gun shot, electrocution, poisoning, explosives, road accident, train accident, natural causes, unknown causes and other causes. Elephant deaths from electrocution and

explosives are in increasing trend. In captive elephants, main causes are infections due to mishandling and aging.

### National Elephant Conservation Action Plan

Sri Lanka does not have an action plan yet but elephant conservation is guided by Elephant Policy (2006, updated in 2019) and National Action Plan to mitigate HEC (2020).

### Addressing the priorities in Jakarta Declaration

- Identify new PA category, especially for elephants - “Managed Elephant Reserve” (MER)
- Declared Hambantota MER 09 April 2021
- Prepare new regulations for MER
- Identify new corridors/connectivity areas
- Identify elephant habitats/corridors using GPS collars data
- Department of Wildlife Conservation is engaging in a research on DNA analysis of wild elephants in Sri Lanka
  - The aim is to examine the within-species genetic structure of the wild elephants across its range to better understand how genetically distinctive regional populations are, and any deviations of Sri Lankan elephants with other countries’ elephants and how that might affect conservation
  - 700 dung samples were collected across the whole island
- Updated Elephant Policy in 2019
- Prepared National Action Plan to mitigate HEC -2020
- Updating Animal Welfare Act
  - Animal welfare in Sri Lanka is currently being implemented in accordance with the Animal Cruelty Ordinance passed in 1907. Amendments to the act are passed by the cabinet in 2022 and the proposed bill is expected to be gazetted, presented to parliament for approval
- Engage with local communities
  - Erection of electric fences around villages and agricultural fields (seasonal)
  - Community participation for habitat enrichment activities

## Thailand

*Presenter – Dr. Somying Thunhikorn, Department of National Parks, Wildlife and Plant Conservation, Ministry of Natural Resources and Environment*

### Status of wild elephants

Thailand has an estimated population of 3,168-3,481 wild elephants distributed across 69 protected areas. Population estimates are done using sign surveys, direct count, camera traps, DNA techniques, line transect and occupancy sampling.

### Status of captive elephants

Thailand has a total of 3,783 captive elephants. The number of domestic elephants over the last five years has slightly increased. Private ownership accounts for 95% of captive elephants.

#### Issues for Asian elephant conservation

- Degradation and fragmentation of habitats
- Increased HEC
- Retaliatory killing of elephants

#### Elephant conservation efforts

- Anti-poaching patrol and protecting habitats (Smart Patrol System, Network Centric Anti-poaching System)
- Scientific research and monitoring conducted in five forest complexes
- Managing HEC

#### National Elephant Conservation Action Plan

The Thailand Elephant Management Plan (2020-2029) aims to address these issues through (i) elephant protection and management, (ii) habitat management, (iii) sustainable co-management, and (iv) human and elephant welfare.

## Vietnam

*Presenter – Ms. Tran Thi Hoa, The Vietnam Administration of Forestry, Ministry of Agriculture and Rural Development*

#### Status of wild elephants

According to estimate of 2022, Vietnam has 109 – 134 wild elephants. Compared to previous estimates, the wild population is increasing.

#### Status of captive elephants

Vietnam has 88 captive elephants (24 male, 64 female).

#### Threats to elephant conservation

- Wild elephants
  - Fragmentation of habitats and forest disturbance
  - HEC
  - Limited understanding about elephants
- Captive elephants
  - National captive elephant breeding program has not been well implemented on the ground
  - Old age
  - Infant mortality

### Efforts for elephant conservation

- National program on elephant protection (1996-1998) but implemented poorly
- Action Plan (2006-2010), no clear guidance
- Four elephant conservation projects implemented between 2013 to 2020 with budget of more than US\$ 70 million
- In March 2022, decision has been issued to extend implementation of National Elephant Conservation Action Plan 2013-2020 to 2025
- Vietnam Forest Department has started developing the next Action Plan 2025-2035 with vision for 2050

### Addressing the priorities in Jakarta Declaration

- Conducted surveys for population estimates
- ID-based monitoring of elephants and monitoring elephant habitats with technical support of international communities
- Habitat enrichment in defined elephant home ranges
- HEC management by establishing electric fences
- Establishment of HEC database piloted in Dong Nai
- Awareness raising
- For captive elephants, established an elephant centre in Daklak
- Established database on captive elephants
- Elephant welfare awareness campaigns

### National Elephant Conservation Action Plan

Previous Action Plan (2013-2020) has expired but its implementation will continue until 2025. Meanwhile, technical and financial support is needed to develop the National Elephant Conservation Action Plan (2025-2035).

### **Discussion**

- **Elephants from Assam and West Bengal of India migrate to Bangladesh and come into conflicts with humans. How can we manage this transboundary movement?**
  - There is a bilateral agreement between India and Bangladesh. Based on this agreement, both countries can explore a mechanism to communicate about elephant movements in real time. Elephants can be pushed back from early warning systems which are in practice to handle interstate movement of elephants in India. We can devise communication strategy and mechanisms. It is the nature of elephants to move places so their movement cannot be avoided but rather we need to focus on sensitizing communities and make them ready to manage this problem. Let us take this issue forward so we can devise a more concrete mechanism to address this problem.
- **What are the legal procedure for wildlife crime and wildlife damage compensation in Nepal?**
  - In case of elephant crime, there is a provision of 5 to 15 years of imprisonment or fine of varying range of NRs. 5,00,000 to 10,000,000 or both under the National Parks and

Wildlife Conservation Act, 1973 Article 26 (1). Crime investigation procedure is taken by forest/or wildlife authorities, cases are filed with the district court and judges make the decision as per the NPWC Act. As per Wildlife Relief Guideline (2069), elephant damaged crops or human death and injury are eligible for compensation. In case of human death, NRs. 1,000,000 is provided. Crop loss is compensated as per the valuation of the damage.

## Conclusion

- Many range States have made significant efforts to conserve Asian elephants in their countries despite facing challenges
- Range countries face similar issues in elephant conservation, some are country-specific and could be useful in other countries should the issue arise
- Efforts have been taken by range countries to meet priority actions of the 2017 Jakarta Declaration

## Session II: Management of elephant corridors as strategies for habitat fragmentation

**Session Chaired by Mr. Bipul Krishna Das, Conservator of Forest, Bangladesh, and facilitated by Mr. Ashok Ram, Member, IUCN-SSC AsESG**

### Session Presentation

Mr. Ashok Ram, member of IUCN-SSC AsESG, gave a brief presentation about the management of elephant corridors and strategies for mitigating impact of habitat fragmentation outlining the following main points.

- Major threats to Asian elephants in Asia are habitat loss/fragmentation and HEC
- Wildlands constitute only 51% of the available Asian elephant range; only 16% is legally protected
- Scale of habitat loss in some range countries
  - In Sabah Malaysia, the elephant range has been reduced by at least 60% in last 40 years
  - In Sumatra, over 69% of potential Sumatran elephant habitat is lost since 1930s and much of the remaining forest cover is in fragmented blocks of less than 250 km<sup>2</sup> each, too small to contain viable elephant populations
  - With influx of Rohingyas from the Rakhaine area of Myanmar to Bangladesh, more than 8,200 acres of elephant habitat was cleared to accommodate Rohingya refugees
  - In Myanmar, forests are declining rapidly with an annual loss of 0.94% with less than 38% of forests now considered intact
- Long-term solution for addressing habitat fragmentation is land use management and corridors form essential elements of managing their landscape
- Primary criteria for categorizing an area as elephant corridor is the structural and functional connectivity between two viable patches of habitats used by elephants
  - Structural connectivity is the measure of habitat permeability based on the physical features and arrangements of habitat patches, disturbances, and other elements presumed to be important for elephants to move through their physical environment
  - Functional connectivity is a critical determinant of how well individuals or genes move through the environment. The usage should not be one off but used by elephants for a long time (at least 5-7 years) to move between the viable habitats
- Need to maintain corridor connectivity to address habitat fragmentation
- All range States have taken steps to identify corridors and their securement

### Status of corridors in range States

- India has a minimum of 101 elephant corridors today compared to 88 in 2005
  - Corridors have become narrower today – 22% corridors are of width 1-3 km only
  - Only 13% of corridors are totally under forest compared to 24% in 2005
  - Only 22% of the corridors are free of human settlements
  - Almost 29% of the corridors have encroachment
  - 2/3rd of the corridors have agriculture land, 2/3rd of corridors have highways, 1/4th have railway lines, 11% have canals, 12% of corridors affected by mining and boulders extraction

- Bangladesh has identified 12 corridors in Cox's Bazar Chittagong
- Map showing corridors in Sri Lanka shows increasing number of corridors outside protected areas indicating severe habitat loss and fragmentation
- Nepal has 51 corridors, 31 corridors are live and 12 are dead corridors
- Rest of the range countries are in the process of identifying, assessing, and mapping corridors

## Discussion

- **In Bangladesh, out of the 12 corridors, 2 are already dead. One is due to Rohingya refugee influx in Cox's Bazar southwest division and the other corridor in the same area is closed due to government built infrastructure.**
- **Were remotely sensed data used in corridor identification in Nepal based on ground-truthing?**
  - Yes. We conducted occupancy survey and collected ground-truthing points/locations to validate remote sensing data. There were 3,500 presence points and we ratified all the points through remote sensing and GIS resulting in 292 presence points. Similarly, we got 312 absence points. Using presence and absence points, we modeled habit suitability maps using GLM and reversed it to prepare resistancy maps. Modeling was done using least cost method to map connectivity and corridors.
- **What do you think about using GPS-collaring data to map corridors since we can get coordinates of the habitats used by the elephants?**
  - We are trying our best to use collaring data, we have collared 10 elephants but it does not give enough data as the sample size was limited. We are surveying movement areas obtained from collaring data to initiate using collaring data. For the corridor study, only presence points from occupancy survey were used. At that time, only few elephants were collared and could not give us enough sample to identify corridors in the entire 1,200 km stretch of elephant landscape in Nepal. But now we have enough samples to analyze genetic connectivity between corridors because we have collected more than 800 dung samples.
- **What factors contribute to the success of corridors for elephant movement? Should we create corridors or maintain traditional movement routes?**
  - Nepal is using landscape level management for managing elephant populations from metapopulation approach. There are several defined corridors such as Basanta, Khata, Laljhadi-Mohana, and Karnali corridors which are functional for elephant transboundary movements.
  - Most corridors are manmade and built to compensate the impacts of development activities in forest areas.
  - Scientists recommend management of elephant corridors as a strategy to mitigate conflict, but in precise, it is to mitigate conflict in the corridor areas.
- **In Sri Lanka, it is said that corridors are longer. If that is true, can you explain why they are long?**
  - In Mahaweli development projects, there are large tracts of land between newly crated National Parks for agricultural purpose, that is why those corridors are so long and it is very difficult to establish those as elephant movement corridors because it has narrow width and no forest patches in between. Even if they are used as elephant corridors in the future, it is unsure if it will be successful because they are very long, narrow and void of

forests. There are other more feasible corridors and 16 corridors have been approved by the Sri Lankan Cabinet Ministers to establish as elephant corridors.

- **Migration is the movement of elephants between separate geographical and seasonal ranges between which elephants move seasonally.**

- But in most cases, what we mean by migration in reference to elephants is their movement in fairly long distances. What we have is elephants moving in and around their home ranges, and because of developments, there are only few areas left which elephants use to move from one part of the home range to another. Throughout the year, elephants might use those narrow areas which are actually corridors. That is why it is necessary to get tracking data to see what is really relevant to elephants as corridors. For example, it might be a crossing in a linear infrastructure within a home range, and that has to be recognized as a corridor and ensure that it remains. Therefore, we have to use collaring and tracking data to identify corridors at micro levels also.
- Elephant movement is between home ranges and when they move, question is whether they move from one protected area to another? Are there viable habitats in between in which they tend to move? To the question of why some corridors are so long and narrow – the length and narrowness of corridors determine the level of fragmentation, if the habitats are too fragmented, then elephants have to move a long distance to move between habitats. If the habitats are less fragmented, the course between the two habitats are less. Few examples from India to explain it well – in the southern India (western Ghat area), the entire habitat is relatively intact with less fragmentation between habitats, and the corridors are wide and small. Whereas in central India, habitats are fragmented and viable habitats are far off. Elephants have to travel long distance (sometimes 25 – 30 km) to move between habitats. In this condition, the corridors are narrow and too long and that is what defines the corridors in central India. Thus, the best way to manage corridors is to radio collar the elephants and see how they are using them and also use data from ground surveys, records of Forest Departments and also collect data from conflict records. We might have ample data that we can analyze and see how elephants are using the landscape. This can inform us of the structural connectivity available, but determining functional connectivity is very important since elephants may not be using the corridors due to resisting factors such as difficult terrains, in spite of it being a healthy corridor.
- **Is anything being done to revive the two corridors in Cox’s Bazar and Chittagong that have been lost due to Rohingya refugee influx?**
  - The Ghundu corridor is completely blocked from the Rohingya refugee camp. Elephants from Myanmar are now traveling to Bangladesh using the northern region to reach the previously used corridor. Thus, they are traveling a longer distance to Bangladesh. Some elephants are also seen to be using different paths not previously used and enter Bangladesh via Nandurbar district. Because of the corridor blockage in Cox’s Bazar region, a population of elephants is now confined in the area. The population is breeding but because of their isolation, there is risk of inbreeding.
  - **What is the status of land ownership in the Rohingya refugee camp? If there are community owned land, then how do you manage it to revive as a corridor?**

- It is government land, mostly Reserve Forest. There are some privately owned community areas which will need to be acquired for reviving the corridor. Out of the 12 corridors identified in the area, only a few are privately owned.
- In India, many corridors have multiple types of land ownership and usage. It is a challenge if private ownership of communities or commercial plantation exists. Different ways can be explored to secure the land as corridors, such as swapping land for land, relocating and rehabilitating people, purchase of land, etc. depending on the ownership and land use.

## Conclusion

- Socio-economic conditions of the range countries are similar, and human-elephant problems are also similar (encroachment, cultivation, HEC, unplanned development, lack of government policy, etc.).
- Next steps – demarcation, declaration and legal protection of corridors; address the needs of forest dependent people; conversion of plantations into forests; avoiding using forests and corridors for cultivation; stop illegal logging; relocation of settlement from corridors; and raising awareness.

## Session III: Minimising impacts of linear infrastructures on elephant habitat

**Session Chaired by Mr. Augustine Tuuga, Director, Sabah Wildlife Department, Malaysia, and facilitated by Mr. Robert Ament, IUCN WCPA TWG**

### Session Presentation

Many infrastructures are coming up in the range States that could have negative impacts on Asian elephant habitats, movement, and behavior if they are not well planned with structures to allow movements and minimize habitat fragmentation. Many of the previously constructed linear infrastructures have been detrimental to habitats and wildlife populations, which now need upgrading with wildlife crossing infrastructures. With the growing realization about how linear infrastructures will continue to have stronger relation with their biological integrity, this session was centered around discussing and sharing the knowledge on the role of linear infrastructure development on Asian elephant conservation. Mr. Ament in his presentation “Safeguarding Asian Elephants from Linear Infrastructure” shared some of the work that IUCN Asian Elephant Transport Working Group has been doing in addressing the impacts of linear infrastructure on Asian elephants. Mr. Ament outlined the following main points.

- The working group is working in line with the following priorities of the Jakarta Declaration
  - Maintain large Asian elephant conservation landscapes where unregulated, economic or commercial infrastructure development or other adverse activities are permitted
  - Create connectivity between such landscapes where all permitted development activities are elephant and biodiversity appropriate
- Transport Working Group (TWG) has 110+ members across 6 continents (comprising infrastructure ecologists, engineers, transportation planners, academics, infrastructure financiers) working to address policy, science, finance, culture, practice and resilience in linear infrastructure development and wildlife conservation
- Developing a global guideline for wildlife friendly linear infrastructures is complex and challenging, and specific to the context – TWG develops guidelines for wide-ranging species and guidelines for particular sub-regions such as the Latin America
- Asia Elephant TWG (AsETWG) has 25+ members in 7 countries focused on contributing to the improvement of Asian elephant movement and connectivity threatened by development of roads, railways, and canals, across the range States
- AsETWG webpage – <https://conservationcorridor.org/ccsg/working-groups/asetwg/>
- Publication – Protection Asian Elephants from Linear Transport Infrastructure containing 6 chapters, 7 case studies and 10 recommendations
  - Some recommendations include
    - Take a more systematized approach to monitor the impacts of road traffic and road kills across range States
    - Increase general knowledge about how traffic, both vehicular and train, adversely affect elephants as they approach or seek to cross linear infrastructure (barrier effect)
    - Support the development and evaluation of promising technologies to mitigate roads and railways

- Improve consistent transport project monitoring and data collection, pre- and post-construction, to determine the effectiveness of mitigation measures
- Even with the paucity of data and evaluation of effectiveness of existing passage structures in range States, as well as a lack of comprehensive structural design guidelines (eg. height, length, width), there is a critical need for integrating elephant passage structure into linear infrastructure project planning (adaptive management design)
- AsETWG is in process of developing technical guidance for mitigation design and evaluation for future linear infrastructure projects
- Some exemplary case studies of wildlife friendly infrastructure in range states include – Sixiao Expressway, Yunnan, China; Chittagong (Dohazari) – Cox’s Bazar Railway, Bangladesh; Southern East-West Highway, Bhutan
- Points suggested for discussion of this session
  - What are the challenges going forward to address linear infrastructures?
  - Are there capacity issues?
  - Do the range states have priorities for addressing linear infrastructures?
  - Other key issues

## Discussion

- What practices or mitigation measures are in place in range States to address impacts of linear infrastructure?
  - **Sri Lanka** – during the construction of southern expressway, elephant-tracking data was collected and two corridors were selected in one segment of the expressway. Accordingly, the highway development authority constructed underpasses in both corridors and has been successful for elephant movement based on the monitoring in these underpasses. In part of the expressway, elephant tracking data was used and 2 major crossing points were identified, underpasses were constructed which have been successful for elephant movement.
    - Identification of crossing points and their placement is important. Elephants are consistent on where they move/cross, so it is easier to identify their crossing points compared to other wide-ranging animals.
    - **Is there anything being done to resolve major accident points?**
      - In average, there are 350-400 kills/deaths of elephants, train accidents are about 3-4% of this. Railway accidents are minimized through speed limits in identified accident-prone areas, increase sides of railway to increase visibility, use power headlights, and SMS alert systems to circulate elephant movement alerts.
  - **Malaysia** - Pan Borneo Highway currently under construction goes through elephant habitats. Applying international lessons to make it elephant sustainable is relevant.

- **Bhutan** – road connectivity to connect southeast and southwest Bhutan has to pass through India. This road development has already started with few kilometers already constructed. The road will pass through prime elephant habitats. Due to the terrain, it is difficult to construct under/over passes. Instead, gradient of road alignment is reduced and has been found to be helpful to allow for animal movement. Therefore, in road projects with limited funds that have already begun without plans for wildlife passes, this can be an alternative for constructing mitigation structures.
- **Bangladesh** – a new railway project connecting Chittagong and Cox’s Bazar is ongoing and passes through several elephant habitats, including a wildlife sanctuary. The project has constructed under/over pass based on previous animal movement data. The railway is not in operation yet but there is evidence of elephants using some water holes and salt lick areas, underpasses are also used by elephants, and elephants are moving using their traditional route. Passes are constructed using earlier elephant movement data. Bangladesh is also experimenting a German technology for reducing fence-end effect (if the animal does not go towards the pass but heads to the road). Animal can be detected in such instances and signal can be sent to railway driver to avoid accidents.
- **Nepal** – the government has recently approved wildlife friendly infrastructure guidelines for Nepal. In terms of road development, many 2 lane roads are going to be widened into 4/6 lanes, studies will be undertaken for constructing wildlife friendly passes in these road projects. More lobbying is also necessary from international communities in favor of wildlife friendly infrastructure.
  - Donor agencies are in favor of wildlife friendly infrastructure as a part of their safeguards to biodiversity. For example, the Asian Development Bank’s road upgrade project in Nepal has a component for capacity building in wildlife friendly infrastructures.
- **Can we use electric fences to direct the elephants away from roads and rails?**
  - No known use of electric fences for that purpose yet. Although not in practice, it might depend on the size of the treatment area and might work for smaller areas. Electric fences could also be unreliable from issues with current flow. It may be better to use sturdy metal fences to guide the elephants to safe crossing area.
- **Early warning vs. accidents** - since trains need about 1 km to come to a stop, early warning may not be very reliable to avoid accidents. Therefore, it is better to utilize more tracking data to identify those stretches with more elephant movement and low speeds can be enforced in those areas. It is important to determine home ranges through tracking data to determine where wildlife passes might be placed.
- **What is the best mitigation in high-speed rails?**
  - The best way for high-speed rails (as with high volume multi-lane highways) is infrastructure crossing such as safe passing over or under the rail. There has been no real technological breakthrough (such as for detection) in the last 20 years that is reliable. In

many cases, infrastructures are more reliable (they reduce collision by 80-100%) than 'cost-effective' technologies. Structures combined with fencing are more effective than structures by themselves. Meta-analysis has found that standalone structures reduce collisions by 50%, whereas when animals were guided with fences, collisions were avoided by 85-100%.

- Elevated tracks/flyovers could be effective in conservation areas, and may be an important area for investment. For example, Malaysia and India have constructed elevated highways, which work as underpasses.
- In China, slow speed zones are in practice in railway sections crossing important elephant habitats. Enforcement of slow speed is important but they may not always be followed (eg. when trains are behind schedule).
- Establishing safe crossings for larger animals also means allowing movements of many other species.

### Conclusion

- Ensuring wildlife friendly measures in linear infrastructure development projects still require a lot of research and exchange of knowledge between range countries.
- Overpass/underpass should be established with detailed information about elephant movement.

## Day 2

The second day of the meeting began with a brief recap of the previous day by the MC, Mr. Ganesh Pant.

### Session IV: Strategies and best practices for managing human-elephant conflict

**Session Chaired by Dr. NVK Ashraf, Member IUCN-SSC AsESG, and facilitated by Dr. Prithviraj Fernando, Member, IUCN-SSC AsESG**

#### Session Presentation

Humans and elephants share the same landscape, they are sympatric; and when this interspecific competition for the same resources is expressed from the human's point of view, it becomes conflict. Human-elephant conflict (HEC) is historic in all elephant ranges and use of mitigation measures such as erecting watchtowers; driving away elephants, etc. are also prehistoric. HEC results from the damage humans bear which are the causes of conflict. Unless we address the drivers of HEC, we are only trying to control the damage. Unfortunately, tolerance and damage control seems to be the only option left, because the human population is increasing which is one driver of conflict, and similarly, increasing linear infrastructures, local overabundance of elephants are also drivers, and unsustainable tourism practices also cause HEC. Dr. Fernando in his presentation "HEC Mitigation: Strategies and Best Practices" outlined the following points.

- HEC is expressed in many ways – loss of crops, damage to properties, injury and death of people
- Direct losses are economic losses
- Indirect losses are from lost economic opportunities, social disruption and psychological impacts
- HEC has become a socio-economic and political issue
- Elephants also suffer from conflicts – snares, jaw-bombs, electrocution, poisoning, shooting, etc.
- HEC is also a conservation issue
- Analysis of 10 HEC conflict action plans advocates barriers, repellants, guarding, alarms, drives, translocation, culling, land use planning, capture, compensation and contraception as solutions to HEC; none of them included mitigating problems of snares, jaw-bombs, electrocution, poisoning and shooting which means they are all designed to mitigate the problems that people have and not mitigating the problems the elephants have
- Approaches to HEC mitigation in ranges States include – limiting elephants to protected areas but most elephant ranges also have people (e.g. 70% of elephant range have a human population)
  - Only 51% of elephant range are wildlands and only 8% are protected wildlands (Leimgruber et al. 2003)
  - Elephants use a lot of disturbed areas in their ranges and that is why HEC is prevalent in range countries, largely outside protected areas
- Carrying capacity of protected areas determines whether elephants outside protected areas can live inside protected areas
- Methods commonly used to minimize HEC are usually confrontational (crop guarding, chasing elephants, patrols, elephant response teams); these confrontational methods tend to become progressively more aggressive to elephants; confrontational methods tend to reinforce reciprocal aggression from elephants
- Are elephants that are conditioned to be aggressive more likely to raid or less likely to raid?

- Lots of electric fences have elephants on both sides (e.g. fence on protected area boundary) and fences will increase the conflict if elephants outside the protected area cannot come inside the protected area
- In Sri Lanka, the few cases of driving elephants into protected areas resulted in a shrinking of the home range because of electric fences restricting their movement and thus, their inability to maintain previous home ranges, and eventually the elephants died
  - Impacts of elephant drives inside protected areas are also seen in the elephants already present there and these impacts last for very long time (.g. young animals dying in dry seasons)
  - Over the long run, elephants outside protected areas living in conflict do better than elephants driven inside protected areas
- In most instances, translocating problem elephants does not work; translocated elephants cause more problems in the new areas, some may even go back to the previous area
- Elimination by capture/culling/contraception – should we be using such methods to manage an endangered species?
- HEC ‘mitigation’ may actually cause harassment of elephants, increased aggression by elephants, detrimental psychological impacts, social disruption, injury, death, loss of range and local extinction
  - Thus, philosophically, HEC mitigation should move away from being people-centric to people and elephant centric
  - Approach should move from protected area based to managing elephants where they are through human-elephant coexistence (HECx)
    - If it is the people’s problem, is it the wildlife and conservation agencies who are responsible? Or are the agencies responsible for people’s welfare responsible for promoting HECx?
  - On mitigation methods, eliminate/deprioritize the methods that are detrimental to elephants and promote/prioritize methods that are non-confrontational. Monitor the method’s impacts on elephants and move forward with an adaptive management approach

## Discussion

- **Mitigation measures used today are mostly confrontational. Can we think of non-confrontational measures which are in practice or could be in practice?**
  - Early warning systems
    - Early warnings may lead to confrontational measures.
  - Bio-fence with electric fence
    - Effectiveness of bio-fences is basically zero. Bio-fences use thorny vegetation but don’t act against elephant’s thick skin. Besides, it is not practical because growing and maintaining growth of selected species over long stretches may not be possible.
  - Food banks for elephants by growing palatable plants in conflict areas.
    - Elephants eat a lot. Possible problem will be over population leading to more conflict, protecting the crops from elephants and other animals until harvesting time will also be a problem. It could be more successful if crops are protected by the people who grow crops, e.g. community-based electric fences as practiced in

Sri Lanka. Community ownership of electric fences is essential, combined with awareness in communities.

- **From Nepal's experience**, HEC is serious when human injury/death occurs; 85% of cases are due to wrong human behaviors, thus, changing human behaviors can bring down the perceived level of HEC. Out of about 230 elephants in Nepal, only 5-6 bulls are problematic, so identifying these problem bulls and monitoring them will help minimize HEC. Well-dedicated elephant response teams (ERTs) can save lives. In addition, early warnings are so that people avoid going where elephants are present and thus avoid confrontation and conflicts. We cannot reduce conflict to zero, but behavior change can reduce conflicts significantly.
- **Whatever mitigation measures are practiced**, it is important to monitor the results and see what has worked and what has not. Use the information for adaptive management. Monitoring should also look at what affect these measures have on elephants.
- **Sri Lanka** - more than 5,000 km of electric fences are erected, but not all are erected in the right places, e.g. in forest edges, fencing in the whole habitat, and in combination of trenches and bio fences. Elephants and humans use the same areas in different times, e.g. elephants are active in agricultural fields in harvesting seasons. Sri Lanka has piloted fencing around the whole of agriculture lands before harvesting, and removing the fences after harvesting the crops to continue allowing elephants to move in the area. Working in integrated ways with communities through awareness programs, behavior change campaigns, installing street lamps, early warnings, etc. can prepare the communities/villages to manage HEC.
- In **Nepal**, conflicts often happen within 1-2 km from protected areas, especially in areas where they have grain storage; elephants are more attracted to crops, sugar, and alcohol.
- **Due to forest loss in bordering parts in India**, elephants enter Bhutan and cause conflict. Traditional migratory routes are now settlements where there is now higher conflict. Therefore, habitat loss and fragmentation needs to be stopped to control HEC in transboundary areas also. Elephant-centric methods such as using electric fence only in certain seasons, not fencing areas with forests, could help promote more appropriate ways to mitigate HEC. In Bhutan, electric fencing needs permission from the Forest Department.
- In **Sabah Malaysia**, elephants were shot to protect large plantations in the 1980s; in the 1990s shooting and driving was halted. Plantation owners were unhappy and they started shooting the elephants anyway and many elephants were killed. Now, there is a general sentiment among people to protect elephants, and in 2016 it was brought under total legal protection. However, shooting continues and a rewards system was initiated for providing information about elephant shootings. Now plantations are working with the government to promote HEC, and plantation owners now allow elephant movement in their plantations. Plants that are below 5 years old are generally raided by elephants, therefore plantation owners are encouraged to fence young plants.
- In **Bangladesh**, seasonal fences are erected during paddy farming season. Some farmers have been using AC current in the fences (which is illegal to use in fences) and have been prosecuted and given a lot of media coverage, which has helped to reduce this bad practice. However, it is difficult to monitor fences since they are erected at night. Government compensations are not effective because of the slow bureaucratic process.

**Large herds of elephants enter Bangladesh from India** during paddy harvesting season and cause huge economic losses to farmers. How can we make compensation policies more effective?

- Compensation should be given through an agency directly responsible for people's welfare, e.g. agriculture agency, and inter-sector coordination is necessary. When wildlife agencies are involved in compensating, it can cause more conflict between the agency and people. There are other reasons why compensations are ineffective, e.g. compensation can be abused (false claims). Perhaps compensation should not involve money but compensating through in-kind means such as replacing lost harvest with grains/food. NGOs can be involved in these kind of mechanisms.
- **Most conflicts in Nepal** are in forest edges and protected area edges and fencing has mixed results and impacts in different places. Together with mitigation measures, it is helpful to work with communities to promote HECx. Such as in Bardia National Park of Nepal, widowed women whose husbands died from elephant attacks have formed networks that are supporting various income generating activities, providing education scholarships to victim family's children, etc. Because of the extended impact HEC has on families, it is now time to think about addressing the problem adequately. Elephant populations in Nepal are increasing and HEC cases are also increasing with rising spatial distribution. Resident and migratory elephants add to 400-500 elephants to be managed in the Western Terai complex alone. More impacts to people are inevitable. Therefore, conservation agencies should not take the sole responsibility of managing this problem but other agencies responsible for people should step in because most government spending is for people.
- Big funding agencies such as World Bank and Asian Development Bank seek government and expert consultation for integrating biodiversity measures in their development projects, but they tend to have limitations in allowable development loans, and hold back from adopting proper conservation friendly measures in the proposed infrastructure development projects. We need to advocate for their consideration of green structures and wildlife friendly development and make use of these meetings and forums to involve a wider range of stakeholders.

## Conclusion

- Conservation agencies and professionals need to continue advocating for people's wellbeing and welfare for wildlife conservation. Our aim is to build better parks and sanctuaries and promote coexistence between humans and wildlife.
- Collaboration between agencies involved in development projects needs to begin from the initial stages of the project to ensure biodiversity and social safeguarding measures are in place. In road development projects, the environment/wildlife agencies and road development agencies should collaborate to ensure enough studies are undertaken, impacts and risks are well identified and mitigation measures are implemented. Biodiversity safeguarding should not just be met as requirements; it should go forward from 'do no harm' principle to 'do better' principle.

## Session V: Mapping the distribution of elephants across Range States

**Session Chaired by Dr. Rajendra K C, DG, DoFSC, Nepal, and facilitated by Dr. Narendra Man Babu Pradhan, Member, IUCN-SSC AsESG, and Dr. Sandeep Tiwari, Member IUCN-SSC AsESG**

### Session Presentation

The Asian elephant population has declined by an estimated 50% over the past 75 years. Currently the elephant population in Asia is estimated to be 52,000 individuals left in the wild. More than 60% of the elephant population exists in India alone. Only four other countries Malaysia, Thailand, Myanmar and Sri Lanka have more than 2,000 wild elephants. Almost 90% of the Asian elephant's historical range has been lost. Presently, about 75% of Asian elephant habitats are outside protected areas. Country specific mapping of Asian elephant ranges are available but range-wide mapping of elephant distribution and habitats are still lacking. Scientific studies have attempted to map the distribution at a range-wide scale, however, a continued consensus among the range States on the range-specific and range-wide distribution maps, and mapping the potential future distribution are needed. With the purpose of developing a range-wide distribution map of the Asian elephant, this session was conducted involving all the range State delegates in mapping their range-specific elephant distribution (delineating existing and probable distribution) which were compiled into a range-wide distribution map. Efforts to develop a range-wide map was initiated since 2008 during the Asian Elephant Conservation Workshop held in Phnom Penh, Cambodia. Since then, the range States have prepared their country specific elephant distribution maps, and these maps need to be shared and updated during forums such as this meeting. Range-wide mapping of elephant distribution aims to build consensus among the range States to bring more systematic and effective elephant conservation actions.

Dr, Pradhan gave some background information on the previous mapping efforts and briefed about the mapping task of this session.

- All Asian elephant populations were mapped during the Asian Elephant Conservation Workshop held in Phnom Penh in 2008 with participation from all 13 range States
  - Maps and data on the distribution of Asian was collected from various sources
  - Data and maps were reviewed, known populations of Asian elephants were mapped and characterized, and areas that may sustain Asian elephants (where recent survey data were lacking) were also incorporated
  - Range-wide mapping was done by selecting a core set of elephant populations and their distribution
  - Mapping process identified 6 types of range – confirmed range, possible range, doubtful range, former range, recoverable range and unknown range
  - Both point location data and polygon data were mapped, and a detailed datasheet was compiled for each point location and polygon
  - A total of 878,639 km<sup>2</sup> represented the sum of all confirmed, possible range and recoverable range polygons, accounting for only 10.2% of the historical range and only 29.1% of the entire range (confirmed, possible range and recoverable range categories) were within protected areas
- Since 2008, there have been extension of habitats, and/or loss of habitats

## Mapping Exercise

The mapping exercise was conducted to indicate the presence of elephants on each range country map based on available survey/research/known information. The country maps were mapped with areas where elephants are present based on the extant and possibly extant population distribution ranges.

- Extant range – the species is known or thought very likely to occur presently in the area, usually encompassing current or recent (post 1980) localities where suitable habitat at appropriate altitude remains.
- Possibly extant range - the species may possibly occur, and should be searched for, but there are no known records and there is a less than probable occurrence. Possibly extant ranges often extend beyond areas where the species is extant, or possibly extant, or may fall between them.

Based on these two criteria, the range State delegates mapped their country-specific Asian elephant distribution range. These range-specific updated maps were collected for their compilation into a crude range-wide map. The crude map will further be incorporated with additional mapping categories to develop a detailed range-wide map.

## Conclusion

- Range States need to continue working together to produce more precise range-wide Asian elephant distribution maps
- Ranges States and IUCN-SSC AsESG specialists will work further to refine the preliminary maps

## Session VI (a): Captive elephants health care and welfare

**Session Chaired by Mr. Manjula Amararathana, Department of Wildlife Conservation, Sri Lanka, and facilitated by Ms. Heidi Riddle, Vice Chair, IUCN-SSC AsESG**

### Session Presentation

A pre-meeting survey was circulated to the range countries and concerns about captive elephant management were raised. Ms. Riddle in her presentation ‘Captive Elephants in Asia’ highlighted the status of captive elephant populations, issues related to registration of captive elephants in range countries, and emerging opportunities to improve captive elephant registration practices.

- Total estimated captive elephant population in range countries is between 14,930 to 15,130 individuals
  - Myanmar has the highest number of captive elephants (5,693), followed by Thailand (3,783) and India (3,467-3,667)
  - Captive elephant population estimation in some range countries is not exactly known because not all captive elephants in private ownership are registered
  - Some range States have captive elephant populations who number equal to or more than the wild population
  - Other facilities (safaris and wildlife parks) in Asia outside the range countries, such as in Japan and South Korea also have captive elephants
- Traditional uses of captive elephants – labor, forest patrolling, ceremonial, display and entertainment
- Most range States have some degree of legislation that oversees the management of captive elephants; captive elephants are managed as livestock and come under regulation of livestock agencies in some range countries
- Some range States lack proper captive elephant registration system that require cooperation from the government and private owners; policies and guidelines related to captive elephants lack oversight and monitoring in some range States
- Management of forest/government owned captive elephants is often better than privately owned captive elephants
- Traditional captive elephant registration systems include marking the elephants with a brand and keeping their records in hand written books; now-a-days software and online systems to register and track captive elephants are being used
- Microchip implants have pros and cons – while microchips can positively identify individual captive elephants, they can also be easily manipulated by removing them and there is also possibility of microchips migrating in the tissue
- Using photographs to keep captive elephant records need to be done on a regular basis to document physical changes in the animal over time
- A study conducted by CITES “Illegal Trade in Live Asian Elephants: A Review of Current Legislative, Regulatory, Enforcement, and Other Measures Across Range States” found that in Asia, it is difficult to monitor privately owned captive elephants

- Most range States allow private ownership of elephants, some countries, i.e. Indonesia and Lao PDR, do not allow private ownership
- The American Zoo Association has started a program SAFE (Saving Animals from Extinction) and has selected the Asian elephants among the 10 prioritized endangered species. Asian Elephant SAFE program is offering to share its expertise and support in various areas including captive elephant registration through financial and technical support, database development, and elephant recognition using Artificial Intelligence (AI)
  - Using digitized records for captive elephant recognition and maintaining the records in zoological institutions can make them readily available; the challenge will be in recognizing the changes in animals through AI
- India and Thailand have initiated profiling all captive elephants based on their DNA signatures

## Discussion

- **Captive elephants are allowed under licensing (renewed every year) in Bangladesh** and private owners are required to provide information to the Wildlife Department about their captive elephants. The training of captive elephant calves is inhumane. Is there any SOP/protocol for their proper taming?
  - Western captive facilities have developed procedures for safe taming of elephant calves. Some countries like Indonesia are adopting those practices. There are also guidelines available. Country specific SOPs will need to be developed by understanding the domestic situations.
  - **What is the procedure, can IUCN help?** Yes, IUCN can provide the expertise and contacts and also contacts for the Asian Elephant SAFE Registry.
  - The challenge is breaking the traditional methods of training elephants. India has developed a publication about elephant training (yet to be published) which is helpful for raising captive born calves.
- **During mating season, musth elephants are more aggressive and their behavior becomes dangerous in captive environment. How do we solve this problem?**
  - Understanding the physical and physiological changes that captive bulls go through during musth is important. IUCN-SSC AsESG has a document available online about musth conditions and potential ways to manage it. Elephants in musth are hyperaware to small changes in their routine and their reaction is aggression. There have been different trials by giving hormones to minimize the effects of musth but results are mixed.
  - In Bangladesh, a traditional practice to manage musth conditions is reducing food and washing the bull very frequently. What is your opinion on this?
    - Observation of musth conditions in both wild and captive situations have shown that wild bulls eat less and travel more searching for females in estrus. Captive bulls also have reduced food intake and injuries/illness tend to kick them out of musth. Wild bulls have larger home ranges during musth and captive bulls in musth are also in need of movement. Restriction of movement is negative control and it could benefit them to keep them exercised.
  - How many times do elephants go into musth?
    - It depends, every male is different.

- **In Vietnam, there is no protocol for managing private owned captive elephants. Do other range countries have such protocols?**
  - India has some gazette guidelines for ‘Husbandry and Management of Elephants in Captivity’, which are also applicable to privately owned captive elephants. Monitoring committees are sent to private owners (such as temples) in case allegations of welfare issues arise.
- **What is the policy of IUCN-SSC AsESG in relation to keeping elephants in captivity?**
  - It does not have specific policy but its role is to advise and aim for high standards in captive elephant management.
- **Is there any practice of releasing the captive elephant in the wild? Can there a protocol developed for wilding them?**
  - IUCN-SSC AsESG has a guideline. Thailand has released captive elephants in the wild on a small scale. It might be successful if done with proper precautions, knowledge about the individual elephant, adequate scientific information and planning.
  - **Vietnam is looking at releasing captive born calves in wild to support the wild elephant population growth. Can that be done?**
    - Releasing after training could work. There is a good chance of rehabilitating them in the wild if they are raised until they are independent, and released where there are no elephant camps or villages. Identify the release areas and assess factors that will affect rehabilitation.

## Conclusion

- Developing common systems for captive elephant registration across the range States can improve their tracking and monitoring.
- Where there are none, protocols for ensuring the welfare of privately owned captive elephants need to be in place and applicable to the domestic contexts.
- Releasing captive elephants in the wild as a measure to sustain wild elephant populations requires more trials and observations before it can be done on a larger scale.

## Session VI (b): Emerging infectious diseases affecting Asian elephants

**Session Chaired by Dr. Zaw Min Oo, MTE, Myanmar, and facilitated by Dr. N V K Ashraf, Member IUCN-SSC AsESG**

### Session Presentation

Infectious diseases such as EEHV, elephant TB, anthrax and other zoonotic diseases are common threats for Asian elephant conservation in all range States. Dr. Ashraf highlighted on the following main points in his presentation.

- Main infectious diseases reported in wild and captive Asian elephants are tuberculosis (TB), foot-and-mouth disease, anthrax, elephant herpes, elephant pox, cutaneous filariasis, fascioliasis and rabies
  - Emerging diseases that are significant threats to Asian elephants are Elephant Endotheliotropic Herpes Virus (EEHV) and TB
- First published report of EEHV came from Cambodia in 2006
  - EEHV is thought to have co-evolved with elephants; most elephants are considered carriers; reactivation with viral shedding can expose immune weak individuals to the disease which is often acute and fatal in individuals 1-8 years age
  - EEHV has been diagnosed in captive elephants in Thailand, India, Nepal, Laos, Cambodia, Malaysia, Sri Lanka, and Myanmar
  - EEHV has been diagnosed in wild elephants in Thailand, India, and Laos
  - Impacts of EEHV are not known in wild populations because it has continued reemerging
  - Non-invasive detection and passive surveillance are the best ways to control EEHV
  - Guidelines for management of EEHV are available
- First case of TB in wild Asian elephant came from Sri Lanka
  - TB is caused by *mycobacterium tuberculosis* which is found in humans and bovines
  - Sero-survey conducted in Nepal in 2006 found 13% TB positive samples; 15% positive in temple owned captive elephants in southern India in 2008; and 27% positive cases were found in Laos in 2012
  - TB must be managed by minimizing transmission to the wild from captive-wild elephant interface
  - Recommended course for managing TB is
    - Identify scope of the problem
    - Identify agencies in charge of elephants
    - Map locations where there is known captive-wild interface
    - Assess presence of TB in these locations
    - Determine level of surveillance already in place
    - Identify potential hotspots and seek specific recommendations
    - Routine testing of humans that work closely with humans
- Captive elephant camps inside protected areas need to be monitored because they are a possible source of disease transmission to the wild elephant population
- Comparison of EEHV and elephant TB

- Dissimilarities - EEHV is viral, acute, hemorrhagic and endemic to species; TB is bacterial, chronic, and zoonotic
- Similarities – both captive and wild populations are affected, infected animals discharge through truck secretion (truck discharge) and both are intermittent shedding

## Discussion

- **What is the mortality of elephant calves, which can be attributed to EEHV?**
  - **Nepal** so far has more than 15 EEHV cases in captive elephants, out of which 10 died and the rest survived. Nepal has developed an EEHV treatment protocol. Elephant mahouts and veterinarians in Nepal are now well aware about EEHV. Now with diagnosing facilities and better drugs, EEHV is better managed. Similarly, TB prevention has improved with diagnosing facilities and treatment. Elephant TB prevention camps were run to diagnose and treat infected captive elephants but has discontinued after lack of funding. New cases have emerged since then. Recent case of an elephant infected with an unknown disease (but suspected case of encephalitis, not yet identified in Asia) was successfully treated but the disease has not been identified yet.
  - **China** has few captive elephants that died from EEHV but don't have the official records.

## Conclusion

- Disease control programs (such as conducted in Nepal) should be taken up as a continuous process.
- Maintaining and sharing records of diseases and elephant mortality causes and rates is a way forward for range countries to manage infectious diseases.

## Session VII: Strengthening transboundary co-operation

**Session Chaired by Dr. Ram Chandra Kandel, DG, DNPWC, Nepal, and facilitated by Dr. Prithviraj Fernando, Member, IUCN-SSC AsESG**

### Session Presentation

Many range States share a common boundary with each other. Asian elephant home ranges lie across boundaries that require transboundary cooperation between the associated countries. In this context, Dr. Fernando highlighted the following points in his presentation.

- Natural resources may not correspond to national boundaries and where there are shared between countries need joint management
- Movement across boundaries are obstructed by barriers, linear infrastructures, prevention by management, preventing by habitat change; and changes in movement can also occur due to habitat change
- When elephants cross international boundaries, they may face a risk of poaching, illegal capture, and illegal trade
- Management options for transboundary elephant populations include
  - Setting-up joint protected areas
  - Removing barriers to movement
  - Sharing information on development activities, management activities, and elephant movement
  - Joint operations (management activities, anti-poaching)
  - Compatibility of legal provisions

### Discussion

- **Bhutan** – the Manas Conservation Area (about 6,000 km<sup>2</sup>) along the India-Bhutan border has been mainly successful for tiger conservation. The area also supports transboundary movement of elephants between India and Bhutan. In recent years, due to COVID-19 and other issues, the frequency of transboundary meetings/interactions have become less. Bhutan's plan to initiate an elephant focused transboundary conservation project has also not gained momentum. Presently, there is more loss of forest cover in transboundary areas of Assam and West Bengal that is causing transboundary movement of elephants to Bhutan. India and Bhutan will need to work together to save the remaining patches of forests in the border areas to maintain the traditional habitats and also reduce HEC to some extent. How should we go forward for cooperation in conserving the elephants?
  - India has been working in the Manas area for 15-16 years, other specialist species such as leopard cats and Asiatic black bears are also moving to Bhutan forests because of better forest conditions. We need to track transboundary elephant movements and also give emphasis to control poaching in the area.
- **Bangladesh** has shared borders with India and Myanmar. Elephants from both countries travel to Bangladesh. Protocol for transboundary cooperation for managing transboundary elephants between India and Bangladesh is in place. A case of an elephant entering Bangladesh from Meghalaya, India, 5-6 years ago, took a long time to resolve due to slow response from the Indian

authorities to repatriate the elephant back to India, and the elephant died. Therefore, prompt response from the authorities will be needed in the future, and this can be eased with protocols to avoid delayed responses. Early warning/message about transboundary movements from the source side could be helpful. Bangladesh will need to devise similar protocols with Myanmar also.

- Although there is not much elephant movement between **Malaysia** and **Indonesia** due to mountain terrain along the borders, we are in process of initiating collaborative transboundary work between North Kalimantan (Indonesia) and Sabah (Malaysia) which is facilitated by WWF country offices in both countries.
- **Bhutan** is proposing to establish Indo-Bhutan Friendship Park keeping elephants as a focal species. As the situation improves, both sides should come together to realize this goal.
- **China and Lao PDR** has some elephants moving between them. Both countries have signed a cooperation agreement to establish transboundary management areas (about 133 km<sup>2</sup>) covering several protected areas in China and Lao border provinces.
- **Malaysia and Thailand** have no transboundary elephant movement due to mountainous topography and not many settlements in border areas.
- **Sharing from Nepal**
  - Bardia National Park and Katarniyaghat Wildlife Sanctuary – elephant movements are frequent through the Khata corridor, and frequent meetings are held between the authorities of both sides to manage transboundary elephants. More meetings are planned after local elections.
  - Chitwan-Parsa complex and Valmiki Tiger Reserve – some barriers to elephant movement are present from a management point of view, in Nepal forests are undergoing fragmentation from road development. Good cooperation exists with Valmiki Tiger Reserve at both field and state level. Both sides are sharing information to manage poaching, illegal trade, and HEC. The Indian side is informed by Nepal about elephant movement to India. Existing MoU between Nepal and India for transboundary biodiversity conservation will be renewed. A rhino swept away by 2017 flooding was recovered with good local level cooperation from India. One more rhino was rescued this year. Similar joint efforts in conserving vultures are also in place. MoU needs to be updated with clauses that allow to work effectively at local levels also.
  - Province 1 – elephants from West Bengal seasonally migrate to Jhapa. Only 11% forest area remains in Jhapa, and there is not enough habitat for large elephant herds. Elephants migrate from West Bengal in paddy harvest season and move even further to Koshi Tappu Wild Reserve. The HEC rate is high in both areas. No official cooperation exists between Jhapa and West Bengal regarding this issue, but there has been some informal cooperation with the West Bengal Forest Department in the past. About 18 km long electric fencing in Bahundangi (in the frontline) has blocked traditional movement route and the problem has shifted elsewhere such as in the Mechinagar area. Farmers are shifting to growing tea and tea gardens are used as movement corridors by elephants. But there has been good results in conserving red pandas in the higher altitude districts such as Ilam. Red panda habitat was improved by purchase of private land and habitat connectivity for red panda transboundary

movement. Province 1 will seek collaboration with India to manage this problem in the future.

- **Bardia-Banke complex** - emerging issues are road construction and railway lines that pass through corridors and protected areas. Hard linear infrastructures will have an impact on natural water flow, and wildlife movement will be affected, especially tiger movement to Suhelwa Wildlife Sanctuary from Banke National Park. Future infrastructure projects will create diversion of major rivers such as Koshi, Gandaki and Karnali in the mid-west and far-west regions. High dam construction will have severe ecological implications in low-lying Terai protected areas in both Nepal and India, and pressure on forest and aquatic ecosystems are imminent. We need to seek collaborative, joint and complementary approaches with the development agencies. Information exchange, effective coordination among central, provincial and local level will be vital. In order to strengthen transboundary cooperation, a revision of relevant MoUs between India and Nepal is necessary and district level transboundary coordination meetings will need to continue. NGOs can have a facilitating role in conducting transboundary meetings. Political harmony will also be important.

## Conclusion

- Better transboundary cooperation will require an exchange of knowledge, information, and experiences between range States.
- Readiness of technical capability in transboundary areas such as, conducting joint anti-poaching operations, evaluating development projects from biodiversity perspective and their monitoring, wildlife rescue operations, etc. will be necessary.
- Coordination meetings at local and international levels between bordering countries will need to continue further.
- Tracking movements of elephants will help to receive information on critical transboundary areas.
- Maintaining a database of transboundary elephant movement and sharing data will also be instrumental to managing the conservation issues..

## Day 3

The third day of the meeting began with a brief recap of the previous day by the MC, Mr. Ganesh Pant.

### Session VIII: Funding support for Asian Elephant Conservation

**Session Chaired by Mr. Phothitay Chanthone, DoF, Lao PDR, facilitated by Ms. Cory Brown, USFWS and Dr. Naresh Subedi, Conservation Program Manager, NTNC**

#### Session Presentation

Ms. Brown highlighted the different funding opportunities that are available through USFWS and other donor agencies for Asian elephant conservation.

- USFWS Asian Elephant Conservation Fund
  - Competitive grant program with annual call for proposals
  - US\$ 1.4 – 1.8 million granted annually
  - Most projects spend US\$ 35,000 – 100,000 for 1 year of work
  - Indonesia has received the most funds over the last two decades. likely because Indonesia is home to the critically endangered Sumatran elephants which is a high priority species
- It is difficult for government agencies to get foreign funding due to:
  - Bureaucracy makes it challenging for governments to receive and track foreign funding
  - Funding is easier through collaborative agreement with intermediary (partnering with trusted NGO)
  - Partner NGOs submit the proposal as the primary applicant on the government's behalf
  - NGOs are responsible for managing funds, procurement, reporting to donor, etc.
  - In place of NGOs, the UN also acts as such intermediary for conservation funding
- Examples of trusted NGO partners
  - NGO WADWT and Assam Forest Department
    - WADWT received funding for anti-poaching stations on behalf of the Forest Department
  - WCS-Thailand and Thailand DNPWC
    - WCS receives funding for uniforms and equipment for DNPWC rangers and patrols
- Other funding sources (NGOs) outside USFWS
  - International Elephant Foundation
  - Elephant Family
  - Asian Elephant Support
- Donor countries and embassies that fund conservation and climate change projects
  - UK, Germany, US (Department of State, USAID), Norway, Sweden, Switzerland, New Zealand, Australia
- Steps for pursuing funding opportunities from foreign government
  - Find an NGO partner
  - Meet with embassies in your country (Environment or Economics Officers), make a pitch for a specific project and follow up
  - In US, embassy buy-in is important

#### Discussion

- NTNC and similar quasi-government organizations, and NGOs are good examples who get direct donor funds and work closely with the government.

- Securing donor funding by NGOs is more effective in collaboration with government agencies and such funding also helps to fill the funding gap in the government. Interagency collaboration among NGOs is also a good approach.
- **Bangladesh** – last funding received was by IUCN-Bangladesh and there has no international funding since then. Can government agencies directly apply to USFWS? Does USFWS provide individual funding for research and academic studies?
  - USFWS requires that the government is in support of the project so a letter of endorsement is a requisite. Government can be a partner in project implementation. Some projects have the government agency as the primary applicant but involve NGOs for the implementation. USFWS would like to see more government driven projects.
- **Bangladesh** – There are several biodiversity projects in Bangladesh, which have little or no involvement of government. These projects have less support for government logistics costs, infrastructure, and are disconnected from government priorities, tend to involve more NGO and more funds are spent on consulting services.
  - Different funding has different requirements. Direct government involvement creates complication of tracking and reporting. USFWS has a strong priority to work with the government. It is difficult to transfer funds directly to the government so they are directed to NGOs. US Department of State tends to involve INGOs and NGOs. We suggest the government agencies to work with NGOs and develop joint projects.
- **Vietnam** – What are USFWS priorities? Should all projects be under government action plans?
  - Funding areas are limited by legislation governing USFWS. Developing projects in line with government action plans will make it competitive and it is also important that projects fall under the international priorities (such as the Jakarta Declaration).
- While it is a prevailing practice to seek funding options from foreign donors, other funding options can also come from domestic sources such as local and provincial governments. There are also local level institutions (such as community forest and buffer zone user institutions) who also have budgets that can be used for both wild and captive elephant conservation.
  - Securing smaller funding from domestic sources will indicate commitment for the work and help to get more funding.
- **African Elephant Fund** was created by the UNEP and has been in existence for quite a number of years. It channels funds directly to African range States up to US\$ 250 million. It is time that Asian range States consider establishing an Asian Elephant Fund using the lessons from the African Elephant Fund. Africa has a continent-wide action plan for elephant conservation. The African Elephant Fund prioritizes implementation of Africa's continent-wide action plan which Asian range States do not have yet. Three range States still do not have a National Action Plan; as soon as that happens we can develop a range-wide action plan. A range-wide action plan will then open doors to seek large scale funding from multilateral donors such as the EU.

## Conclusion

- Most of the range States have success in securing various funding for Asian elephants and their lessons and knowledge can be shared for securing more funds in the future.
- Projects developed in line with national and international priorities are effective.
- Asian range States can learn from the African range States for developing a Range-wide Action Plan and establishing Asian Elephant Conservation Fund.

- Besides international funding, there are various domestic sources for funding elephant conservation projects which can be brought as matched funding for securing bigger donor funds.

## Session IX: Preventing illegal wildlife trade

**Session Chaired by Dr. Ram Chandra Kandel, DG, DNPWC, Nepal, and facilitated by Mr. Salman bin Saaban, Director of Protected Areas Division, Department of Wildlife & National Parks Peninsular Malaysia**

### Session Presentation

Poaching and illegal trade of Asian elephants has been raised as a major conservation problem by all the range States. This session was conducted to share experiences and lessons that will be helpful for devising policies and taking actions for preventing poaching and illegal trade of Asian elephants. Mr. Saaban highlighted the following main points in his presentation.

- Wildlife crime is a \$7 to 23 billion trade/year that is destroying our planet, not only driving some of the most iconic endangered species to extinction but also impacting sustainable economic growth of the most vulnerable communities
  - Rhino poaching in South Africa increased by 7700% between 2007 and 2015
  - Elephants are poached for ivory and skin, tigers and leopard for skin and bones, pangolins for scales and meat, and iguanas are traded as exotic pets
  - Illegal wildlife trade is the fourth largest crime after drugs, human trafficking, and arms
- Trophy hunting of wild animals amounts to \$200 million annually and only 3% of the revenue reached the local communities
- Wildlife criminals use corrupt officials to smuggle wildlife parts and products
- True victims are the local communities who are dependent on natural resources for their livelihood
- Key causes of the occurrence of illegal wildlife trade
  - Domestic demands drive local markets
  - Transboundary trafficking to reach consumer countries (black markets)
  - Concealed trade from physical and online markets
- A study in Malaysia showed 44% of illegal trade is done using online platforms
- Wildlife parts and products are mostly used in traditional medicines, ornaments, fashion accessories, and symbols of social status
- Air, land, and sea routes are used to traffic wildlife products across Southeast Asia; there have been many seizure cases involving black pond turtles and star tortoises originating from India and Bangladesh
- Four main themes at play in the fight against wildlife crime
  - Eradicating the markets for illegal wildlife products
  - Ensuring effective legal framework and deterrents
  - Strengthening law enforcement
  - Sustainable livelihoods and economic development
- The Hanoi Conference on Illegal Wildlife Trade and London Conference on Illegal Wildlife Trade has brought 50 countries to commit for actions in three key themes – (i) tackling illegal wildlife crime as a serious organized crime, (ii) building coalitions, and (ii) closing markets
- Existing challenges in controlling illegal wildlife trade include
  - Reduce demand in consumer countries

- Strengthen cooperation within the chain of law enforcement agencies including national, cross-border, and inter-regional agencies
- Financial investigation linked with wildlife trafficking
- Lack of international cooperation, exchange of information/intelligence among enforcement bodies
- Lack of forensic and sophisticated investigation techniques
- Lack of political will
- Corruption in the illegal trade chain
- Involvement of organized crime syndicates
- Lack of funds in law enforcement agencies
- Rapidly increasing online trade

## Discussion

- **Bangladesh** – some illegal wildlife trade is domestic and it is minimum. Bangladesh is used more as a transit route connecting India-Bangladesh-Myanmar. Customs officials are usually unaware about illegal wildlife trade and are being trained for wildlife parts detection. Wildlife crime control units in Forest Department are trained by police, CIB, etc. Wildlife protection Act is the legal instrument for prosecuting wildlife criminals and controlling illegal wildlife trade in Bangladesh. Demand should be reduced in consumer countries to reduce illegal wildlife trade.
- **Sri Lanka** – some domestic trade exists in Sri Lanka, but it is mainly used as transit and there have not been many wildlife seizures in recent years.
- **China** - strict legislations and regulation is in place to prevent illegal wildlife trade. We have a central level coalition involving 27 Ministries to control illegal wildlife trade, and a lot of efforts have been made for public awareness. Penalties are possibly one of the strictest globally. China is prioritizing global coordination and good cooperation with CITES. Ivory is purchased as an investment for the future like gold.
- **Nepal** - institutional mechanism to combat wildlife crime involves a central level WCCB (headed by DG), district level WCCBs (headed by park wardens and forest officers) and provincial WCCBs. Nepal seeks support from Interpol to arrest high profile criminals. CITES and SAWEN have been good forums to tackle illegal wildlife trade jointly. Nepal has also destroyed its stockpile in 2016. In protected areas, buffer zone communities are involved, including youths, to control poaching through community-based anti-poaching units (CBAPU). Nepal has porous borders with India and China, and many seizures are made when they are in international transit. Some protected areas, such as Langtang National Park are used as a trading route from Kathmandu to neighboring countries, CBAPUs are involved as sub-units of BZUC to control illegal trade, and awareness programs are organized for communities by CBAPUs.

## Conclusion

- Controlling illegal wildlife trade requires political support, interagency coordination, and sharing information and intelligence, along with promoting sustainable livelihoods in affected communities and generating awareness.

## Session X: Developing text for the “The Kathmandu Declaration for Asian Elephant Conservation”

**Session Chaired by Mr. Dhananjaya Poudel, Joint Secretary, MoFE, Nepal, and facilitated by Mr. Bed Kumar Dhakal, Deputy Director General, DNPWC, Nepal, Mr. Vivek Menon, Chair, IUCN-SSC AsESG, Ms. Heidi Riddle, Vice Chair, IUCN-SSC AsESG**

A draft of the declaration was prepared and shared with the delegates prior to the session for their initial review. Detailed review and finalization of the document was completed with active participation of the delegates. The document builds on the previous Jakarta Declaration (2017) and incorporates the needed commitments and future actions from all Asian Elephant range countries to work collectively in conservation of Asian Elephants. Particular areas of focus in the draft version included:

- (i) Ensuring elephant-focused and biodiversity friendly development
- (ii) Curbing poaching and illegal trade of Asian elephants
- (iii) Improving management of captive Asian elephants
- (iv) Promoting coexistence between humans and elephants
- (v) Improving transboundary cooperation in conserving Asian elephants
- (vi) Developing a range-wide conservation action plan
- (vii) Sharing range State level database management to create a range-wide Asian elephants database, and
- (viii) Strengthening cooperation and collaboration between the range countries through research, transfer of knowledge and capacity, communication and information sharing.

### Launching of “The Kathmandu Declaration for Asian Elephant Conservation”

All the delegates of the range States agreed to the Kathmandu Declaration and it was officially launched with all the meeting participants. The declaration was launched by Mr. Dhananjaya Poudel, Joint Secretary, MoFE, Nepal, Dr. Ram Chandra Kandel, DG, DNPWC, Nepal, Mr. Vivek Menon, Chair, IUCN-SSC AsESG, and Ms. Heidi Riddle, Vice Chair, IUCN-SSC AsESG.



*The Kathmandu Declaration is launched*

The launching of the declaration was followed by gifting of a momento to the participating delegates.

The meeting ended with the closing remarks by Dr. Ram Chandra Kandel, DG, DNPWC, Nepal.



*Delegates of the 3<sup>rd</sup> Asian Elephant Range States Meeting*

## Annex 1: Meeting Participants

### Country Delegates

Country	Name	Title	Participation
Bangladesh	Mr. Bipul Krishna Das	Conservator of Forests, Chattogram Circle	In person
Bangladesh	Mr. Sayad Mahmudur Rahman	Mammologist, Developing Planning Unit, Dhaka	In person
Bhutan	Mr. Ugyen Tshering	Chief Forestry Officer, Jomotsangkha Wildlife Sanctuary, Department of Forests and Park Services	Zoom
Bhutan	Mr. Sonam Wangdi	Chief Forestry Officer, Species Conservation and Monitoring	Zoom
Cambodia	Dr. Leung Kesaro	Deputy Director, Directorate Natural Protected Areas	Zoom
Cambodia	Dr. Ou Ratanak	Deputy Director, Tonlesap Protected Area	Zoom
Cambodia	Mr. Tuy Seireivathana	Country Director, Wild Earth Allies	Zoom
China	Mr. Zhang Zhizhong	Director General Office of Wildlife Conservation	Zoom
China	Mr. Li Linhai	Division Director Fauna Conservation and Management	Zoom
China	Mr. Su Rui	Programme Officer, Department of Wildlife Conservation, China National Forestry and Grassland Administration	Zoom
China	Mr. He Yufei	Programme Officer, Department of Wildlife Conservation, China National Forestry and Grassland Administration	Zoom
China	Mr. Li Peng	Director, Forestry and Grassland Administration of Yunnan Province	Zoom
China	Mr. Chen Fei	Director, Asian Elephant Research Center of National Forestry and Grassland Administration	Zoom
China	Mr. Shikun	Professor, Beijing Forestry University	Zoom
China	Mr. Xie Yi	Professor, Beijing Forestry University	
India	Mr. Ramesh Kumar Pandey	Inspector General of Forests (Project Elephant)	In person
India	Mr. Kanagaraj Muthamizh Selvan	Senior Scientist, Ministry of Environment, Forest and Climate Change	
Indonesia	Dr. Indira Eksploitasia	Director Species and Genetic Conservation, Directorate General of Nature and Ecosystem Conservation, Ministry of Environment and Forests	Zoom
Indonesia	Mr. Krismangko	Policy Analyst, Directorate of Biodiversity Conservation, Ministry of Environment and Forestry	Zoom
Indonesia	Ms. Badiah Said	Ministry of Environment and Forestry	Zoom
Indonesia	Mr. Wahdi Azmi	Secretary of Aceh Climate Change Initiative	Zoom

Lao PDR	Mr. Chanthone Phothitay	Deputy Director of the Wildlife and Aquatic Management Division (CITES Division Lao PDR)	In person
Lao PDR	Dr. Teuanchay Phongkhamphanh	Wildlife and Aquatic Management Division	In person
Malaysia Pinensula	Mr. Salman bin Saaban	Director of Enforcement Division, Department of Wildlife and National Parks, Peninsular Malaysia	In person
Malaysia Pinensula	Mr. Muhammad Fadlli bin Ab Yazı	Head of Johor Elephant Sanctuary	In person
Malaysia Sabah	Mr. Augustine Tuuga	Director of Sabah Wildlife Department	In person
Malaysia Sabah	Mr. Hussien Muin	Sabah Wildlife Department	In person
Myanmar	Mr. Htay Aung	Director General, Forest Department	Zoom
Myanmar	Mr. Hla Myo Aung	Deputy Director, Nature and Wildlife Conservation Division	Zoom
Myanmar	Mr. San Lwin Oo	Park Warden, Rakhaing Yoma Elephant Range	Zoom
Myanmar	Mr. Saw John Shwe Ba	Managing Director, Myanmar Timber Enterprise	Zoom
Myanmar	Mr. Hla Moe Aung	General Manager, Myanmar Timber Enterprise	Zoom
Myanmar	Dr. Zaw Min Oo	Veterinary Manager, Myanmar Timber Enterprise	Zoom
Nepal	Dr. Ram Chandra Kandel	Director General, Department of National Parks and Wildlife Conservation	In person
Nepal	Mr. Bed Kumar Dhakal	Department of National Parks and Wildlife Conservation	In person
Sri Lanka	Mr. Manjula Amararatne	Director Natural Resources Management	In person
Thailand	Dr. Supagit Vinitpornawan	Director Wildlife Conservation Area Management	Zoom
Thailand	Dr. Somying Thunhikorn	Forestry Technical Officer	Zoom
Vietnam	Ms. Tran Thi Hoa	Official of Department of Protected Areas Management, Vietnam Administration of Forestry	Zoom
Vietnam	Ms. Phan Thi Thanh Hang	Director of Legal Document and Inspection, Vietnam Administration of Forestry	Zoom

#### IUCN-AsESG

Name	Title	Participation
Mr. Vivek Menon	Chair AsESG and rep. SSC	In person
Dr. Sandeep Kumar Tiwari	AsESG Programme Manager	In person
Ms. Heidi Riddle	Vice Chair AsESG	In person
Dr. Pruthu Fernando	AsESG	In person
Dr. NVK Ashraf	AsESG	In person
Mr. Rob Ament	IUCN WCPA	Zoom

## Nepali Participants

Name	Institution
Dr. Pem Narayan Kandel	MoFE
Mr. Dhananjaya Poudel	MoFE
Dr. Rajendra KC	DoFSC
Mr. Hari Bhadra Acharya	Chitwan National Park
Mr. Bishnu Prasad Shrestha	Bardia National Park
Mr. Mr Sudip Chhatkuli	DoFSC
Ms. Sushma Rana	DNPWC
Mr. Dil Pun	DNPWC
Mr. Chandra Shekhar Chaudhary	DNPWC
Ms. Sabnam Pathak	DoFSC
Mr. Hem Raj Acharya	DNPWC
Mr. Ashim Thapa	DNPWC
Mr. Rabindra Maharjan	Forest Director, Province No. 1
Mr. Prabin Bidari	Divisional Forest Officer, Bardia
Dr. Narendra Man Babu Pradhan	IUCN NEPAL / IUCN SSC Asian Elephant Specialist Group
Mr. Ashok Kumar Ram	Bardia National Park/Member, IUCN SSC Asian Elephant Specialist Group
Dr. Hem Sagar Baral	ZSL Nepal
Dr. Ghana Shyam Gurung	WWF Nepal
Dr. Shant Raj Jnawali	WWF Nepal
Dr. Bhagwan Raj Dahal	ZSL Nepal
Dr. Chiranjibi Prasad Pokheral	NTNC
Mr. Shyam Kumar Thapa	NTNC
Mr. Anil Parsai	NTNC
Mr. Ambika Prasad Khatiwada	NTNC
Mr. Bishnu Singh Thakuri	NTNC
Mr. Sujhav Pun	NTNC
Mr. Surat Bam Malla	NTNC
Ms. Bhibha Kunwar	NTNC
Ms. Binu Jha	NTNC
Ms. Jyoti Gurung	NTNC

## Other Participants

Name	Institution	Participation
Ms. Cory Brown	USFWS	Zoom

Ms. Leslie Catherwood	USFWS	Zoom
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**Organizing Committee**

<b>Name</b>	<b>Designation</b>
Mr. Vivek Menon	Chair - IUCN Asian Elephant Specialist Group
Ms. Heidi Riddle	Vice-Chair, IUCN Elephant Specialist Group/Member - Organizing Committee
Dr. Naresh Subedi	Member - Organizing Committee, NEPAL
Mr. Ganesh Pant	Member - Organizing Committee, NEPAL
Dr. Maduvil Valappil Ashraf K	Member - IUCN/Asian Elephant Specialist Group
Dr. Fernando Joseph Manik Prithiviraj	Member - IUCN/Asian Elephant Specialist Group

## Annex 2: Meeting Agenda

Time	Activity	Remarks
<b>Day I: Wednesday 27<sup>th</sup> April 2022</b>		
<b>8.15-8.45</b>	<b>Registration</b>	
<b>9.00 -10.30</b>	<b>Opening Ceremony</b> <ul style="list-style-type: none"> <li>▪ Brief introduction of the meeting and welcome remarks <b>Dr. Ram Chandra Kandel</b>, Director General, Department of National Parks and Wildlife Conservation (DNPWC), Nepal</li> <li>▪ Official opening by the <b>Hon'ble Minister Ramsahay Prasad Yadav</b>, Ministry of Forests and Environment, Nepal (<i>Lighting the Panas</i>)</li> <li>▪ Keynote address by <b>Mr. Vivek Menon</b>, Chair, IUCN SSC Asian Elephant Specialist Group</li> <li>▪ Remarks by <b>Dr. Krishna Prasad Oli</b>, Chairperson, National Trust for Nature Conservation (NTNC), Nepal</li> <li>▪ Remarks by <b>Dr. Pem Narayan Kandel</b>, Secretary Ministry of Forests and Environment, Nepal</li> <li>▪ Opening remarks by the <b>Hon'ble Minister Ramsahay Prasad Yadav</b>, Ministry of Forests and Environment, Nepal</li> <li>▪ Photo Session</li> </ul>	MC Mr. Ganesh Pant, Ecologist, Department of National Parks and Wildlife Conservation, Nepal
<b>10.30- 11.00</b>	<b>Tea/ Coffee</b>	
<b>11.00- 13.00</b>	<b>Session-I</b> Asian Elephant Conservation Status- Brief Country Reports	<b>Chair:</b> Dr. Ram Chandra Kandel, DG, DNPWC, Nepal
<b>13.00-14.00</b>	<b>Lunch</b>	
<b>14.00-15.00</b>	<b>Session I (Contd.)</b>	
<b>15.00-16.00</b>	<b>Session-II Discussion</b> Management of elephant corridors as strategies for minimising impacts of habitat fragmentation	<b>Chair:</b> Mr. Bipul Krishna Das, Conservator of Forest, Bangladesh <b>Facilitator:</b> Mr. Ashok Ram, Member, IUCN SSC AsESG
<b>16.00-16.15</b>	<b>Tea/ Coffee</b>	
<b>16.15-17.30</b>	<b>Session-III Discussion</b> Minimising impacts of linear infrastructures on elephant habitat	<b>Chair:</b> Mr. Augustine Tuuga, Director, Sabah

Time	Activity	Remarks
		Wildlife Department, Malaysia <b>Facilitator:</b> Mr. Robert Ament, IUCN WCPA TWG
<b>18.00-20.00</b>	Welcome dinner	

<b>Day-II Thursday 28<sup>th</sup> April 2022</b>		
<b>9.00-9.15</b>	Recap of the last day's discussion	Mr. Ganesh Pant, DNPWC
<b>9.15-11.15</b>	<b>Session-IV Discussion</b> Strategies and best practices for managing human- elephant conflict	<b>Chair:</b> Dr. N V K Ashraf, Member IUCN SSC AsESG <b>Facilitator:</b> Dr. Prithviraj Fernando, Member, IUCN SSC AsESG
<b>11.15-11.30</b>	<b>Tea/Coffee</b>	
<b>11.30-13.00</b>	<b>Session-V Discussion</b> Mapping the distribution of elephants across Range States	<b>Chair:</b> Dr. Rajendra K C, DG, DoFSC, Nepal <b>Facilitator:</b> Dr. Narendra Man Babu Pradhan, Member, IUCN SSC AsESG Dr. Sandeep Tiwari, Member, IUCN SSC AsESG
<b>13.00-14.00</b>	<b>Lunch</b>	
<b>14.00-15.00</b>	<b>Session-VI Discussion</b> Captive elephants health care and welfare	<b>Chair:</b> Mr. Manjula Amararathana, Department of Wildlife Conservation, Sri Lanka <b>Facilitator:</b> Ms. Heidi Riddle, Vice Chair, IUCN SSC AsESG
<b>15.00-16.00</b>	Emerging diseases affecting Asia elephants	<b>Chair:</b> Dr. Zaw Min Oo, MTE, Myanmar <b>Facilitator:</b> Dr N V K Ashraf, Member IUCN SSC AsESG
<b>16.00-16.20</b>	<b>Tea/Coffee</b>	
<b>16.20-17.30</b>	<b>Session-VII Discussion/working Group</b> Strengthening transboundary co-operation	<b>Chair:</b> Dr. Ram Chandra Kandel, DG, DNPWC, Nepal

**Facilitator:** Dr.Prithviraj Fernando, Member, IUCN SSC AsESG

**Day III Friday 29<sup>th</sup> April 2022**

<b>9.00-9.15</b>	Recap of the last day's discussion	
<b>9.15- 10.15</b>	<b>Session-VIII Discussion</b> Funding support for Asian Elephant Conservation	<b>Chair:</b> Mr. Phothitay Chanthone, DoF, Lao PDR <b>Facilitators:</b> Ms. Cory Brown, USFWS Dr. Naresh Subedi, Member, Organising Committee
<b>10.15-10.30</b>	<b>Tea/Coffee</b>	
<b>10.30-12.00</b>	<b>Session-IX Discussion</b> Preventing illegal wildlife trade	<b>Chair:</b> Dr. Ram Chandra Kandel, DG, DNPWC, Nepal <b>Facilitator:</b> Mr. Salman Sabaan, Member, IUCN SSC AsESG
<b>12.00-13.00</b>	<b>Session-X Discussion</b> Developing text for “The Kathmandu Declaration for Asian Elephant Conservation” (To be launched during the Launching Ceremony)	<b>Chair:</b> Mr. Dhananjaya Poudel, Joint Secretary, MoFE, Nepal <b>Facilitators:</b> Mr. Bed Kumar Dhakal, Deputy Director General, DNPWC, Nepal Mr. Vivek Menon, Chair IUCN SSC AsESG Ms. Heidi Riddle, Vice Chair, IUCN SSC AsESG
<b>13.00-14.00</b>	<b>Lunch</b>	
<b>14.15-15.00</b>	<b>Launching Ceremony</b> <ul style="list-style-type: none"> <li>▪ Remarks and meeting recommendation by Mr. Vivek Menon, Chair, IUCN SSC AsESG</li> <li>▪ Launching of the “The Kathmandu Declaration for Asian Elephant Conservation”</li> <li>▪ Remarks by the Secretary Dr. Pem Narayan Kandel</li> </ul>	Guest for the ceremony: Dr. Pem Narayan Kandel, Secretary, Ministry of Forests and Environment, Nepal
<b>15.30-20.00</b>	City tour and farewell dinner	

## Annex 3: The Kathmandu Declaration



### **THE KATHMANDU DECLARATION FOR ASIAN ELEPHANT CONSERVATION KATHMANDU, NEPAL April 29, 2022**

**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;**

**Acknowledge 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;**

**Note 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;**

**Understand the role of international agreements on the conservation of biological diversity and protection of rare and 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 Biological Diversity (CBD), and the Convention on the Conservation of Migratory Species of Wild Animals (CMS);**

**Acknowledge the presence and support of other governments, international organizations, non-governmental organizations, and other supporters of Asian Elephant conservation.**

**Building upon the Jakarta Declaration for Asian Elephant Conservation of the second Asian Elephant Range States Meeting of 2017.**

**Thus, we declare:**

- To enhance cooperation between the thirteen 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.

#### **Annex: Priority Commitments by 2025**

- 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 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 a national Asian Elephant Database with the technical support of the Asian Elephant Specialist Group of the IUCN SSC and CITES MIKE/ETIS;**
- **The Range States jointly initiate the creation of an Asian Elephant Fund assisted by the Asian Elephant Specialist Group of the IUCN SSC.**

**DONE in Kathmandu, Nepal on the Twenty Ninth Day of April in the Year Two Thousand and Twenty Two, in a single original copy in the English language.**