

## **“BACK TO THE WILD”: The elephant Conservation Center Story**

*(Supporting video included)*

I will present the challenges faced by endangered Asian elephants and the communities that live among them and then explain our Center’s vision and various missions that are implemented here at the Elephant Conservation Center.

### **CONTEXT**

More than 100,000 Asian elephants may have existed at the beginning of the 20th century, roaming from the Persian Gulf to India and China. However, their numbers have plummeted by at least 50% in the past three generations.

A large portion of the world’s human population now lives in or near the Asian elephant habitat, which has dwindled to just 15% of its historic range. Habitat loss, fragmentation and pressure from poaching and the live elephant trade pose an ever-growing threat to these giant nomads.

Laos is one of 13 countries where Asian elephants still exist. The global Asian elephant population stands between 40.000 to 50.000 individuals including 15.000 captive and between 25.000 – 35.000 wild elephants. Asian elephants are the largest terrestrial mammal present on the continent. They are a Keystone Species which play a vital role in the sustainability of their tropical ecosystem. They are considered the ‘gardeners of the forest’ and are listed as ‘endangered’ by the IUCN Red list. They are also considered sacred animals by many Asian cultures, which venerate them as demi-gods. But paradoxically these gods are often in chains!

### **THREATS TO WILD AND CAPTIVE ASIAN ELEPHANT IN LAOS**

Elephant populations face specific threats in each country. In Laos – once known as the Land of a Million Elephants – wild elephants are mainly threatened by habitat loss due to deforestation, and to a lesser degree, by poaching.

Due to deforestation the wild elephant habitat is fragmented. Migration patterns of wild elephants are compromised. Populations are isolated and risk inbreeding. The chances of human-elephant conflict grow higher as well.

This is leading to a very worrying situation for the future of the species in Laos.

Laos has two relatively large groups of wild elephants. One is in the centre of the country, in the Nakai Nam Theun National Park. The other is in the north-western Province of Sayaboury, in the Nam Pouy National Park. Altogether, it is commonly accepted that there are less than 300 wild elephants in Laos with about the same number in captivity.

Captive elephants are threatened by low birth rates, a lack of veterinary care, the lack of welfare regulations and exports to foreign countries.

Captive elephants were traditionally used in logging operations. They were often overworked, exhausted, wounded or sick. They were also not always given the opportunity to breed as a pregnant female elephant could mean up to 5 years without an income for its owner (2 years gestation + 3 years prior to calf weaning).

Under Lao law, captive elephants are considered livestock rather than not wild animals. Their owners thus have all rights over their elephants. This makes it both extremely difficult and expensive to rescue captive elephants because the only way to do so is either by buying the elephant (at a cost of over 50,000 USD) or by renting them.

Since the ban on timber export, decreed by the Prime Minister in 2016, legal logging operations using elephants have dramatically decreased. Captive elephants are now mostly used in tourism, although the sex-age structure of the population is of concern with very few breeding age females left in Laos for reproduction.

This concerning situation is amplified by the ongoing export of breeding age elephants to foreign countries. In addition, owners of elephants who do not foresee any economic role for their elephants are unwilling to breed them and are tempted to sell them abroad.

Finally, there is also a lack of national welfare standards for captive elephants. Camps are not controlled to ensure they provide at least minimum care. It is up to camp owners to establish their own standards.

## **THE ECC's VISION FOR THE FUTURE OF LAO ELEPHANTS**

The Elephant Conservation Center is the brainchild of French NGO ElefantAsia that started work in Laos in 2000. ElefantAsia first ran environmental education and veterinary care programmes in Laos. They created the Elephant Festival of Sayaboury in 2007, registered and microchipped all captive elephants in Laos and operated mobile elephant clinics throughout the country in cooperation with the Department of Livestock in the Ministry of Agriculture and Forestry of Laos. In 2010, ElefantAsia founders joined with a Lao partner to establish the Elephant Conservation Center in Sayaboury Province.

The ECC – as we call the Center – was created as an elephant hospital and nursery, addressing two of the most pressing issues faced by elephants under human care: firstly the health of the captive elephant population and secondly the need for more births to maintain the population.

At ECC we believe that it is vital to secure and maintain a healthy and sustainable captive elephant population to be used as a genetic reservoir should the wild population collapse. The objective is not to perpetuate captivity, but rather to make sure that elephants exist under human care so that they can be returned to the wild in the future in order to replenish a declining wild population.

Since 2010, the ECC has therefore implemented a new socialization and rewilding programme. In 2019 ECC successfully released four elephants into the Nam Pouy National Park. A first in Laos!

ECC started their work in 2010 with two elephants and a staff of six. In 2020, it had 32 elephants under its care and employed 70.

Since its inception, four elephants were born at the ECC and the Center also helped with the birth of two elephants in another sanctuary.

The vocation of the ECC is to become the 'elephant nursery' of Laos. In this regard, we spare neither resource nor effort to improve our breeding techniques. With very few females of breeding age left in the country, the pressure is high to produce babies. For this, we have developed a method that blends traditional mahout knowledge with high tech hormonal analysis.

## **OUR MISSION**

Our mission, in a nutshell, is to merge indigenous traditional mahout knowledge and wisdom with modern science in order to RESCUE, REHABILITATE, REPRODUCE, REHERD and REWILD elephants.

Our daily work follows the pattern of elephants' natural lives. Elephants are born, they feed, they can become ill – physically or mentally –, they reproduce, they live and they die. They are highly social animals living in matriarchal herds.

Our objective at the ECC is to be present and efficient at every stage of elephants' lives in order to provide them with the best possible food, care and social dynamics in an environment that is as close as possible as what they would experience in the wild.

Elephants at the ECC are usually rescued from illegal trafficking or simply purchased from owners who can no longer afford to care for them.

They are then transported to the elephant hospital at the ECC where they receive first aid or veterinary treatment if needed.

Veterinary care at the ECC is of the highest standards. Our infrastructure is one of the best in the region and we collaborate with internationally renowned veterinary surgeons and the Veterinary Faculty of Chiang Mai University in Thailand.

Once treated, elephants undergo a period of intimate relationship building with their new mahout in the forest. Mahout and elephant stay together until the mahout can fully handle the elephant.

For cases in which elephants are suffering from psychological trauma, we offer sensorial enrichment in a dedicated area. They are challenged with some games and puzzles in which food is hidden. This keeps them active while giving them time to adapt to their new environment and caretaker.

Elephants spend most of the day feeding on natural food grown in the Nam Tien Provincial Protected Area in which the ECC is established. They also enjoy supplementary food grown and prepared on site by the veterinary team and mahouts.

After a period of rehabilitation and adaptation, they start meeting other elephants following a protocol designed by both Lao mahouts and our behavioural biology team.

Most of the initial work for both socialization and reproduction is performed by experienced Lao mahouts. They advise on which elephants to pair and what social associations to make. They also advise on elephants' attraction or repulsion for one another. We always value and follow their advice as their knowledge of elephant behaviour is unsurpassed.

Once groups or pairs of elephants are proposed by mahouts, our biology team will study the behaviours of the elephants and collect faecal and blood samples that are then analysed at the endocrinology lab.

The idea here is to study three hormones that can provide essential information for reproduction and socialization purposes.

The first hormone is progesterone. This will provide us with accurate information about female oestrus cycles and let us know when to pair a female and a male elephant in order to have the highest chances of breeding success.

The second hormone is cortisol. This allows us to evaluate the level of stress in captive elephants. Monitoring cortisol levels is a common way to assess welfare in captive animals. Behavioural observations correlated with cortisol concentration levels help us evaluate each introduction step, monitor group formation, and optimize novel management protocols and strategies based on biological and behavioural data rather than only subjective feedback from the team involved in the process.

The third hormone is testosterone, which is found in male elephants. It allows us to follow the 'musth' cycle of elephants ('musth' is a condition found only in male elephants, when they become very excited and potentially dangerous). Testosterone levels are also a very valuable source of data to better understand the social dynamics in male social activity.

## **FROM CAPTIVITY TO FREEDOM**

### **Socialization**

The ECC has developed a three stage socialization protocol to allow the progressive formation of socially-coherent groups.

During the first stage, elephants of any given group spend most of the time under the supervision of their mahouts. The ECC team, comprised of mahouts and biologists, monitor the first introduction of non-related elephants before they get to know each other. After this step, the team selects the elephants that seem to show affinity for each other.

During the second stage, mahouts are still with the elephants on a daily basis, although staying farther away from the animals. The objective of this stage is to allow the affinity displaying elephants to create stronger bonds. The team also monitors if the group structure is consistent over time.

During the third stage, the group has established its hierarchy, it has created strong bonds among each individual and shows behaviours similar to the ones observed in the wild. At this stage, mahouts are almost invisible to the elephant group. The group is held in a totally new natural environment, of which they have no prior experience.

The test here is to observe how the group copes with a novel environment: For example, do they remain in close proximity or do they walk away from the group while looking for natural food sources? Do they show protective behaviours for other group members when facing a potentially dangerous situation? Will they look for natural food sources away from human settlements or will they tend to infringe upon human crops?

If these natural behavioural patterns are observed, the herd is considered suitable for a so-called 'soft release'.

## **Rewilding**

The rewilding process also follows several steps.

First, elephants are walked to the Nam Pouy National Park. Their soon-to-be former mahouts camp nearby with daily patrols to assess the behaviour and health of the released elephants.

After a period of 2-3 months, mahouts visit the elephants only once a week following their footprints, dung droppings and marks in the forest, as well as the sound of their bamboo bells. During this period, the goal is to make sure the elephants are not trying to return to human populated areas where they risk creating human-elephant conflicts. We also observe and record the evolution of their migration routes and range.

If the group has shown persistent cohesion and shows no sign of malnutrition or social unrest, they are fitted with a radio-GPS collar and the 'soft release' process is considered finished. They have now become free roaming elephants.

The last step is the official recognition of their 'wild status' by Lao authorities and protection of their home through ranger patrols. These are also trained, funded and partly managed by the ECC.

Indeed, an increasing part of our work now consists of supporting the conservation of wild and released elephants and their habitat. The ECC is at present in charge of running ranger patrols in the Nam Pouy National Park, home to the second largest wild elephant herd in Laos. We train, equip and manage two teams of rangers while working on the creation of the first Ranger Academy of Laos. We install GPS collars on released and wild elephants in order to better monitor these populations and make sure they do not wander too close to human settlements.

## **Education and Science for Conservation**

Another important part of our work consists in welcoming Lao students and schoolchildren to the Center in the framework of our 'Kids in Conservation' programme. During these moments, they are presented with free pedagogical material while being taken to all our stations to observe and learn about elephant biology, social life and conservation challenges.

We also run various scientific research programmes in cooperation with several international institutes such as the US-based Smithsonian Institution or the French Institute for Research and Development and more recently the National University of Laos where we have initiated the first Wildlife module within the Faculty of Veterinary Science. Our research fields of work revolve around parasitology, diseases, endocrinology, reproductive health and social dynamics.

## **Conclusion**

ECC's pioneering "Back to the Wild" programme is the first such experiment in attempting to increase the wild Lao elephant population through breeding and rewilding, while protecting their natural environment through ranger patrols and law enforcement.

The ECC does not claim to be able to save the elephant population on its own. ECC considers itself a 'laboratory' experimenting solutions for elephant conservation and well-being. We hope that the examples and protocols we are experimenting can be shared and duplicated wherever necessary.

Thank you very much for your attention and for your invitation,

Sebastien Duffillot