

Challenges Facing Preservation and Conservation of Asian Elephants

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Introduction

Asian Elephants (*Elephas maximus*) are the continent's largest terrestrial mammals, although the Asian Elephant is slightly smaller than African Elephants. Rising populations, industrialization, illegal killing for ivory as well as environmental degradation have led to reduced elephant populations in Asia. Asian Elephants have been revered for centuries in Asia as cultural and religious icons and they play an important role in economies, culture as well as religion of the Asian Continent. There are three subspecies of Asian Elephants; the Indian, Sri Lankan and Sumatran. Indian Elephants are the majority of the remaining elephants in the Asian continent. Sri Lankan Elephants are physically the largest of the subspecies and the darkest in color, whereas, Sumatran Elephants are the smallest. Although, elephants play a significant task in maintaining the region's forests, their habitat is shrinking; demand for ivory, habitat loss from human settlement and shortage of food and water have led to a drastic decline in elephant populations during the last decades. For centuries, the elephant's massive tusks have been prized for their ivory. As such, the Asian Elephant has now become an endangered species. Many centuries ago, the Asian Elephant ranged from Syria to northern China and the islands of Indonesia. But at present, they have been reduced to small groups in scattered areas south of the Sahara and in some isolated areas in India, Sri Lanka and Southeast Asia. Elephants need a large amount of habitat because they eat a lot and drink a lot of water. An adult elephant eats about 150 kilograms of food and drink about 150 - 200 liters of water per day. Although, elephants can spend more than two thirds of their day feeding on grass, they also eat large amounts of bark, leaves, roots and stems of trees. But they prefer to eat cultivated crops such as rice, bananas and sugarcane. They roam villages seeking such kind of food and this habit of elephants leads to human-elephant conflicts. Humans have become direct competitors of elephants for living space. Humans also do not consider elephants as good neighbors as they raid crops and wild elephants rampage through villages. Villagers shoot elephants because they fear them and also consider them as pests who damage their crops.

Elephants play significant roles ecologically as well as culturally in Asia and they are also vital to maintain the rich biodiversity of the ecosystems which they share with other species.

Threats to the survival of Asian Elephants

Asian Elephants face great problems such as habitat loss, degradation, fragmentation and illegal killing for ivory and many die due to human-elephant conflicts as well as due to loss of genetic

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viability resulting from small population size and isolation. As a result, Asian Elephants are less when compared to their populations many centuries ago.

The Asian Elephant Conservation Act was passed in 1997 to protect them. This law supports as well as provides financial resources to conserve Asian Elephants' geographic distribution. Increase in population (humans), industrialization and environmental degradation have led to reduced elephant populations in Asia.

About 8,000 years ago, Asia was covered by rainforest. But at present, Asia has high rates of deforestation and forest degradation, especially, in the humid tropics where millions of hectares of tropical forests (the places of dwelling of elephants) are destroyed and degraded annually.

Habitat loss is also one of the major problems for the plight of elephants at present. Increasing human population (who clear forests to build their homes as well as clearing forests for agricultural purposes and for timber in many parts of Asia including Sri Lanka) has led to many illegal encroachments in elephant habitat. Their food as well as water resources have got depleted. This has resulted in elephants losing their habitat and encroaching villages in search of food and water which leads to human-elephant conflicts and ultimately their death.

At the same time, infrastructure developments such as construction of roads and railway tracks also fragment habitat and their migratory routes are cut off. Most often, they are unable to mix with other herds and elephants also run the risk of inbreeding.

Poachers kill elephants for their ivory (tusks) and skin and thousands of elephants are killed annually.

At the same time, wild elephants are captured for domestic use. In Thailand, elephants are used on a large scale for tourism purposes. This has reduced elephants in large numbers.

Threats to their survival have to be looked into in detail to find solutions to conserve and preserve the Asian Elephants.

Are Asian Elephants considered an endangered species?

Many centuries ago, the Asian Elephant roamed the Tigris and Euphrates rivers in Western Asia including China's Yangtze River. But at present, they are a highly endangered species. There are no wild elephants in Western Asia and also in some parts of the Indian Subcontinent, Southeast Asia and also in China. As elephants are adaptable in diet and behavior, they can survive from grasslands to rain forests. Yet, they have to migrate across large areas in search of food and water during different times of the year. But such vast ranges of area are rare in highly populated Asia where humans have encroached elephants' dwellings.

It is difficult to count wild elephants. Yet, the wild Asian Elephant population which was about hundreds of thousands by the end of the 20th century has reduced to around 37,000 - 48,000

at present. But due to ancient cultural traditions (such as using them for cultural and religious purposes such as processions) about 16,000 Asian Elephants are in captivity in some Asian countries. For instance, in Thailand there are nearly three times wild elephants as well as elephants in domesticity.

Threats to Wild Elephants

There are many threats to wild elephants such as conflicts with humans, ivory poaching scarcity of space to roam and capture of young elephants. The growing population of Asia has become a threat to elephants as humans encroach on elephant habitat. They clear forests by cutting down trees. Many people live close to jungle areas which were former habitat of elephants. Some people have built their houses in paths crossed by elephants (in search of food and water) daily.

Conflicts with humans

Elephants stray out of jungles into villages in search of food and sometimes destroy property, trample crops and at times kill people who they consider as threats. They become a nuisance to humans who have no option but to kill elephants with gunfire or poison to protect themselves as well as their crops.

No space to roam

This is one of the major threats to wild Asian Elephants because they have lost their habitat and also face fragmentation because humans have cleared large areas of forests as well as populated river valleys and plains. As a result, elephants are confined into hilly landscapes and remnants of forest which are frequently visited by poachers and loggers. At the same time, large development projects such as construction of road and railway networks, dams, tea and coffee plantations have also decreased the habitat of elephants. As a result, the seasonal migrations of elephant clans have been obstructed and led to fragmentation of elephants.

Meanwhile, habitat fragmentation also divides elephant populations into small, isolated groups. As a result, elephants are at risk of inbreeding. According to some biologists, in the future there may not be wild Asian Elephant populations due to this reason.

Ivory poaching

As there is a huge demand for ivory trade, a large number of elephants have been killed during the last decades. The majority of Asian Elephants (male) have ivory tusks and poachers hunt male elephants (the tuskers) for their tusks.

Capture of young elephants

Many young elephants are captured from the wild and are tamed by people to supply them for tourist and entertainment industries. Young elephants are closely guarded by their herds. When

people try to capture these elephant calves, the elderly elephants, especially, female elephants who protest such captures are often killed. Many captured calves are prematurely weaned, become isolated from their herds, are cruelly treated and mostly die before they reach the age five.

Illegal hunting and trade of elephants

Only male Asian Elephants have tusks and therefore poaching is aimed at male elephants only. Removal of tuskers for their ivory may result in the decrease in tusk less males in the elephant population. Although, the ivory trade is illegal ivory elephants are killed annually. At the same time, some people consider hunting elephants as a sport. In Sri Lanka also during the colonial period hunting elephants has been a favorite past time of the colonialists and about 1500 elephants were killed during that period, merely for pleasure. This resulted in the extinction of elephants in Nuwara Eliya.

Threats to Domestic Elephants

By the early 20th century elephants were used for the timber industry and their habitat were also destroyed at the same time. Many wildlife agencies in Asia consider domesticated elephants as ordinary domestic animals and this concept has made it difficult to conserve domestic elephants and their tusks can be sold easily. They are also a good source of income for impoverished mahouts (the mahouts display elephants to tourists and earn money) who are at times not properly trained for the job of looking after elephants properly.

The booming tourist industry

Elephants have become mere showpieces in the booming tourist industry. They are being used by tourist hotels and centers as tourist attractions and they have become a good source of income for those own them. Some elephants are used in circuses too. They lack social contact with other elephants and are also at risk for injuries while performing dangerous tricks.

More and more elephants are used as tourist attractions and they are found with their poor mahouts begging for money in the streets of large Asian cities such as Bangkok. These elephants suffer respiratory infections, damage property, get knocked down by vehicles and suffer from malnutrition due to lack of proper food and water.

Are there any solution for the plight of Asian Elephants

At present the elephant has become a flagship species of wildlife conservation in all Asian countries where they exist and steps are being taken to protect them. Among them the major decisions are reducing the hunting and capturing of wild elephants for ivory and tourism, curbing habitat destruction by creating vegetated corridors between separated habitats by maintaining a buffer zone of secondary-growth forest and also by creating waterholes for them to drink and bathe, improving protection of wild herds by minimizing encroachment on human habitats and by seeking support from local communities for elephant conservation.

At the same time, there should be better care for captive elephants. This is another initiative done with the objective of protecting captive elephants, i.e. by establishing centers to accommodate confiscated, unwanted and abused elephants. Thai Elephant Conservation Center in Lampang, Thailand provides a home, work, food as well as veterinary care to almost 100 elephants and in this center dangerous animals are confined in a secure area, young working elephants are trained and other elephants can roam free and breed. The elephants which roam freely produce elephant calves which will be reintroduced to the wild, their original home. This has been a successful program and this kind of program can be carried out by other Asian countries too.

Are traditional conservation strategies effective?

Long term conservation of Asian Elephants is a big challenge as they are being captured and domesticated in almost every country in Asia.

Traditional conservation strategies can preserve biodiversity within nature reserves. Yet, they may not be successful in mitigating the conflicts between rural development and wildlife conservation and it affects elephant conservation as well as land resource management within and around nature reserves. Regulations only cannot satisfy the demands to maintain biodiversity and ecosystem services as well as the demands to achieve human welfare. Instead, there is a necessity for innovative tools; informed land-use planning and integrated conservation development projects which can be used to reduce the agricultural interface with elephant range, while working towards alleviating the damage caused by human-elephant conflicts.

International measures to protect the Asian Elephant

Due to the threats faced by Asian Elephants which are considered an endangered species, the bill Asian Elephant Conservation Act of 1997 was introduced into the United States House of Representatives on June 4, 1997. This Act was designed to assist in the conservation of Asian Elephants and measures were taken to support and provide financial assistance for the conservation programs for countries within the range of Asian Elephants and also for projects carried out by persons who had expertise in the conservation of Asian Elephants. The mandate of this Act promotes and assists the persistence of the elephant in the wild. This Act has been formulated with the objective of protecting domesticated elephants as well as wild elephants and their habitat vital for their survival. A grants program, the Asian Elephant Conservation Fund (AsECF) was established to award proposals which fulfill aims and objectives described by the Act and during the first two years of operation the AsECF was able to support 26 projects in nine countries.

AsECF aimed to assist the conservation of Asian Elephants by promoting a few objectives: habitat/ecosystem conservation and management, protection of at-risk elephant populations, development and execution of elephant conservation action plans, applied research on elephant populations and habitat which include surveys and monitoring, protected area/reserve management in important elephant ranges, conservation education and efforts to decrease human-elephant conflict as

well as cross-border elephant issues. But the Act does not provide grants for captive breeding of Asian Elephants other than for release of these animals to the wild.

How to mitigate human-elephant conflict?

Although people and elephants have coexisted in Asia for over thousands of years, until a few decades they did not face conflicts as the elephants lived in the jungles and did not roam the villages in search of food and water. When people started clearing jungles and building their homes, elephants lost their habitat and their existence was threatened which led to human-elephant conflicts. At present, in many countries, measures have been taken to use modern geospatial analysis tools (with satellite imagery) to detect how these conflicts are caused and how preventive actions can be taken by working closely with local and regional experts. As such, preventive measures to mitigate such conflicts will be identified and new land-use strategies which will minimize such conflicts will be identified with the objective of providing benefits to elephants and humans both.

World Elephant Day 2015: Facts about conservation and protection

Increase in poaching, habitat loss and human-elephant conflict are some major threats to Asian Elephants. The World Elephant Day, an international event held annually on 12th August was organized to conserve and preserve elephants. By holding this event, the conservationists hope to raise awareness of the plight of elephants with the objective of protecting elephants considered as the world's largest terrestrial animal. In this event, about 65 wildlife organizations all over the world supported the event to spread knowledge about the conservation of elephants. Goals of this program include programs for better protection of wild elephants, enhancing enforcement policies to stop illegal poaching and trade of ivory, conserving elephant habitats, better care for captive elephants and when possible to reintroduce captive elephants into protected sanctuaries.

If these measures are not taken Asian Elephants will face extinction. According to WWF, the three subspecies of Asian Elephants are restricted to about 15% of their original range and this figure may decrease if proper action is not taken.

Asian Elephant Distribution

Historic range:

Tigris and Euphrates eastward through Persia, Indian subcontinent, South and Southeast Asia and China up to the Yangtze-Kiang

Current populations:

Indian subcontinent (India, Nepal, Bhutan, Bangladesh), Continental Southeast Asia (China, Myanmar, Thailand, Kampuchea, Laos, Vietnam, Malaysia), Asian islands (Andaman Islands, Sri Lanka, Sumatra, Borneo)

Presently occupy only 15% of historic range and India has 60% of remaining wild populations

- *E. m. borneensis*' occupied Borneo in prehistoric times - not imported from India

Habitat

- Primary habitat types -Tropical and subtropical moist broadleaf forests, Tropical and subtropical dry broadleaf forests, Move through vegetation zones seasonally (often found along rivers in dry months)
- In Southern India: hilly dry scrub through deciduous forest to wet evergreen forest
- Northeastern India and Burma: swampy grasslands on river floodplains; moist deciduous forest on Himalayan slopes
- Sri Lanka: mainly dry deciduous woodland, scrub, grassland and marshes; small population in rainforests
- India's Andaman Islands: swim across sea between various islands
- Prefer transitional zones between two ecological communities (forests and grasslands), require more access to shade than African Elephants and inhabit more low visibility habitats compared to African Elephants (www.d-maps.com according to IUCN fact sheet)



fig. 1 www.d-maps.com according to IUCN fact sheet

Conclusion

In conclusion, there are challenges to the preservation and conservation of Asian Elephants such as habitat loss, human-elephant conflicts, illegal killing for ivory tusks and capturing young elephants for tourism. If proper measures are not taken to protect elephants, the largest terrestrial animal, Asian Elephants may face extinction in the future.

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