

HISTORY AND BIOLOGY OF TRADITIONAL ELEPHANT MANAGEMENT FRED KURT

1. The first centres and the dispersion of elephant cultures

1.1. Definition of elephant cultures

Elephant cultures base on traditions of people professionally engaged with different aspects of capturing, taming and working with Asian elephants. These elephant people belong to several professions or casts like catchers, trainers, riders, rope makers or collectors of medical plants. The elephant cultures evolved in tribal societies and melted with feudalistic systems. Their religious background roots in animistic as well as Buddhist and Hindu believes. Elephants were considered as totem. Accordingly killing and capturing them was taboo. However, the taboo could be lifted for limited periods by religious ceremonies, and the elephant men had to change fundamentally their lives during these periods (e.g. no contacts with women, only vegetarian meals, adopting a secret language).

Elephant cultures rely on historical founders (e.g. Kalapytiya the authors of the most ancient manual on capture and keeping of elephants). Within their casts elephant people made well defined careers, e.g. from food cutter to chief of the capturing operation.

1.2. The dispersion of elephant cultures in South and Southeast Asia



1.3. Differences between South and Southeast Asian traditions



Elephant cultures in South and Southeast Asia can be distinguished by the methods of capturing (see later) breaking or riding (picture left). They influenced each other, e.g. Cambodia and Peninsular Malaysia “imported” the style of riding from India. Concerning the methods of capturing and breaking, Sri Lanka took over methods from Southeast Asia.

Elephants and their mahouts were brought from one cultural centre to another one, e.g. from Bengal to South India (19th century) or from Eastern Thailand to Sumatra in 1987.

1.4. Captive elephants in North Africa

In the 4th century BC captive Asian elephants were used for transport and war in the Near East. After his victory over the Indian king Porus, Alexander the Great (326 BC) brought large numbers of war elephants westwards. Alexander’s huge reign felt into parts after his death (324 BC).



After 301 BC the Persian kings could easily procure captive elephants from India as a barter for horses. The Egyptians had to find new sources to compete in the armament race of the Mediterranean regions. They found elephant hunting tribes in Meroe and Ethiopia. Adulis became a port for the export of elephant. Almost at the same time Carthago started to tame African elephants and captured them around the Atlas mountains. To build up elephant cultures has taken about 30 to 40 years. In the Atlas region elephants disappeared around 300 AC. However, in Northeast Africa the elephant culture from Meroe was taken over by the reign of Axum in the 1st century AD, where it survived until the 7th century AD.

2. The methods of capture

2.1. From hunt to capture

In South and South Asia elephants were hunted only exceptionally. They could be killed with poisoned spears or arrows, but before killing they were noosed or captured in pits or natural traps. Nooses, pits man-made and natural traps were also used to capture other wild animals. It was therefore easy for hunters to become elephant catchers.

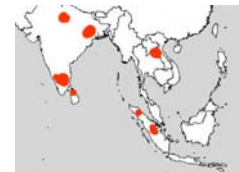
2.2. Driving into natural traps

Herds were driven into swamps (e.g. Northern India), lakes (Cambodia) or ravines (Northern India, Sri Lanka) and noosed with the help of specially trained hunting elephants. In the lakes of Cambodia they were first harpooned at their ears from boats. These drives were only possible with hundreds of people.



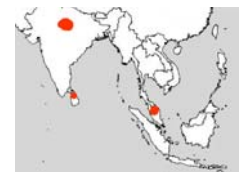
2.3. Pits

Dug in groups on elephant paths and camouflaged. Occasionally elephants were attracted with food or driven by men close to the pits. Pits could be dug by small groups of hunters and helper elephants (monitors) were not necessary



2.4. Ground nooses

Nooses made from leather or ligaments were placed around a small hole in the ground. When an elephant stepped with one leg into the hole, a trigger mechanism released a heavy weight on a nearby tree. The weight is connected with the noose. When it falls down, the noose is closed immediately. Monitors were not necessary.



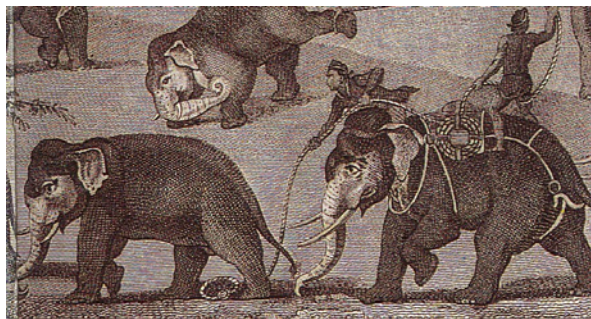
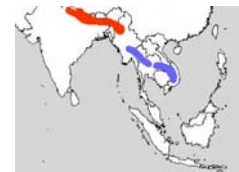
2.5. Decoy and hand-noosing

Bulls were followed with 3 to 5 tame females. The catchers sat camouflaged on their backs. After the bull was accustomed to the presence of the females and was lying down for sleep, the catchers fettered his hind legs. In Sri Lanka catchers noosed wild elephants by hand without tame elephants



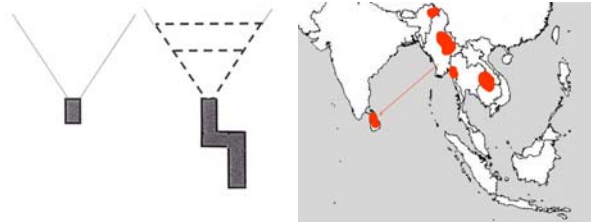
2.6. Mela Shikar

A team of catchers rides on the back of several highly trained elephants into a wild herd and throw a lasso around their neck (Nepal, Assam and Northern Myanmar). In Sothern Myanmar, Eastern Thailand, Cambodia and Vietnam the noose is fixed with the help of a stick on a hind leg.



2.7. Khedda

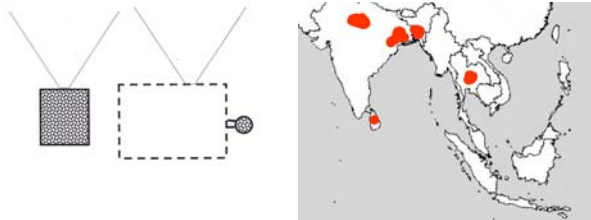
Shan-Khedda or Y-Khedda: Through a funnel elephants are driven into a narrow corridor (8 m x 2 m). In the corridor they are noosed from outside. Team: 6-10 men. Helper elephants not necessary. In the 18th century the system was enlarged in Sri Lanka (A1) with stabile enclo-sures and "broken" corridors.



Assam - Khedda: Constructed like Y-Khedda in short time with small number of helpers. Ditches and palisades. Captured elephants secured with help of monitors. Team: 10-30 men, 6-10 monitors. Losses: small. Occasionally a second khedda was erected behind the first one

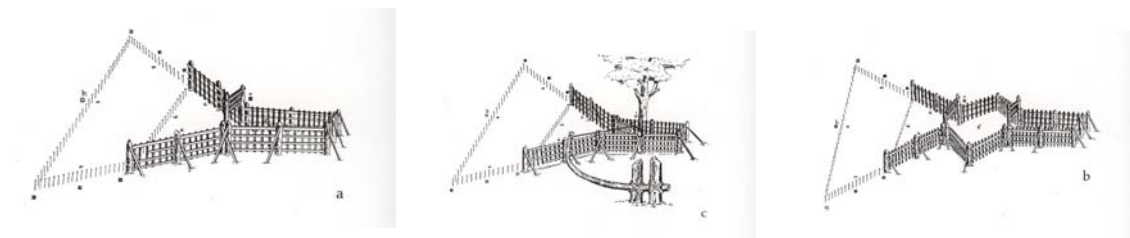
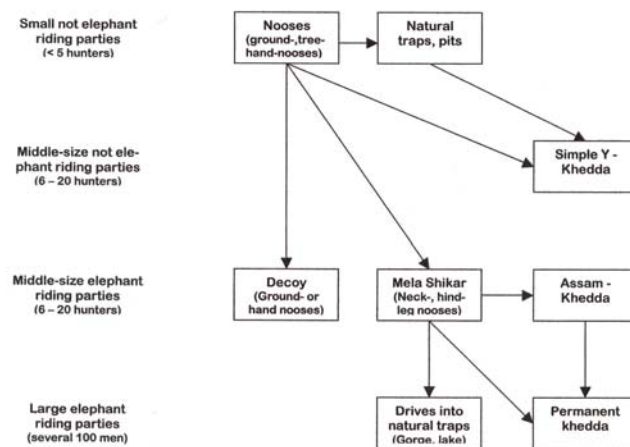


Permanent Kheddass according to the Assam design. Die capturing kraals measured in extreme cases 10'000 and more m². Thousands of helpers necessary. Dozens of monitors. Losses small but sometimes extremely high. Examples: Kakanakote (Mysore / Karnataka), Ayuthia (Thailand), Panamuré (Sri Lanka)



2.8. Evolution of the capturing:

The methods evolved from small groups of hunters without monitors to very complex systems, where hundreds and thousands of men and dozens of elephants were employed.



3. Breaking the resistance and accustoming to men

In former times, captured elephants were kept without food and water for considerable time in the pits or kheddass to weaken their condition and, accordingly, their resistance. Later this was achieved by isolation of each captured elephant from direct contact with other members of its former group and by more or less strict restriction of its movement by fetters, narrow pens or cradles (see below).

In the very first step of taming, elephants are not allowed to lie down, and many older animals are weakened by “stretching”, i.e. the hobbled front and hind feet are brought into extreme distal positions so that the weight of their bodies rest painfully in the joints of their elbows or knees, respectively.

Most probably the oldest method of taming is the keeping in relative large kraals made of heavy logs protecting the mahout from the captive’s attacks as well as the elephant from flogging by the mahout. Hence, “**protected contact**” was already known some 3000 years ago. Today this method is only used in Kerala and Coorg (Maharashtra).

During their process of taming, each elephant is hand-fed by a particular man or boy (normally the future mahout). The captives are accustomed to be touched by men. They are flogged when they offer resistance, and they are rewarded with titbits like sugarcane or tamarind fruits when they tolerate the close vicinity of men.

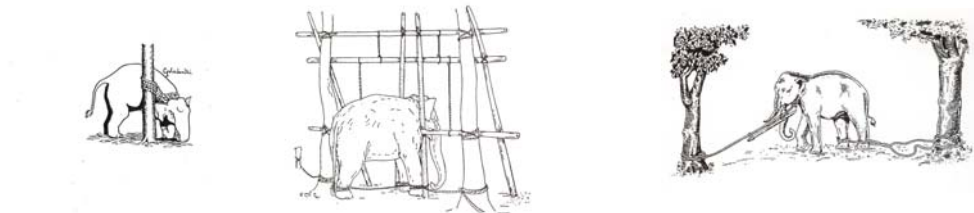
In this stage of taming, a young, socially completely isolated captive elephant that has not yet been fully socialised in his former group, can consider its mahout as an important social partner. Older elephants face difficulties to consider the mahout as a “friend”. Traditionally elephant cultures refrained from the capture of elephants older than about 10 years.



Taming and training kraal in Coorg (South India).
The captive has been taken out with the assistance of 3 koomkies.



Hobbled hind feet of a captive elephant in Assam.



Methods to keep captives in a standing position: Assam (left), Sri Lanka (centre), Thailand (right)

4. Training

Training starts already during the process of taming. The hand-fed captive learns to take objects, to move forward, backward and to either side and the according commands. The captive are led to the water daily. During bathing they lie down. Whenever this happens the mahout speaks out the command for “sitting” or “lying”. Sooner or later the elephant makes the association and lies down even outside the water. The different methods of “putting-through” (forcing an elephant with hooks, chains etc. to a certain body position) , as used in circuses are hardly known in traditional elephant cultures.

In a second step of training elephants learn to be ridden by the mahout. A lot of learning happens trough imitation of koomkies, walking to either side of the trainee.



Hand-feeding of captive by a boy (the future mahout). The captive learns to come, to go back, to go to the side, to take objects with the trunk, to lift legs.



The fettered captive is surrounded by men. They sing and touch the elephant. The future mahout climbs on the back. The animal learns to be touched by men, to be ridden and later to lift feet, move to the sides, forward and backward.



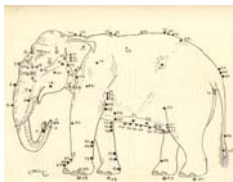
With the help of monitors the captive is regularly brought to the water for drinking and bathing. Here he learns the commands for lying & sitting



The trainee learns a lot by imitating from tame conspecifics. For this purpose it is fettered between to monitors. The mahout is still riding on the hind back.



Full training is completed after 7 to 12 years. The elephant will know by this time 20 to 27 more or less different commands and understands often before a command is given, what it is asked to do. Commands are given threefold: (1) by signs of the naked feet of the mahout, (2) by spoken commands, (3) by signs of the stick or the arms of the mahout.



In several books on elephants the picture from Deriyagala (1955) is copied. It shows “nerve centres” to control an elephant. PLEASE, DO NOT BELIEVE THIS NONSENS!

5. Tools to control captive elephants

5.1. Chains and other tools to restrain movement

Chains or ropes are used to restrain movements. They can bear painful thorns, hooks or sharp chain-links. The most cruel tools are used to control bulls, e.g. the “tiger – mouth”, a fork-like instrument with sharp hooks or the hooked ear – noose.

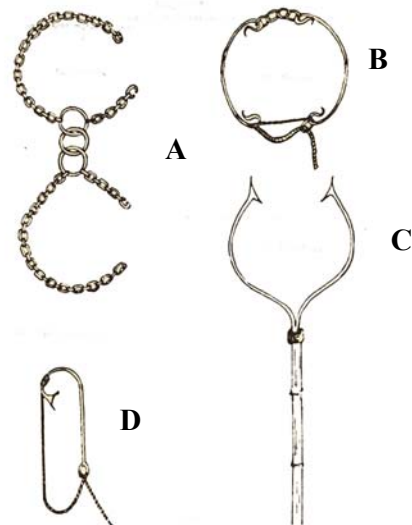


**Forefoot - chain
(Sri Lanka)**



**Hind leg - chain
(Kerala)**

Foot and leg chains are slung around the neck or the body. They can be drawn in by the mahout to restrain movement and slow down the speed of walking.



Tools to restrain movements (Myanmar):
A: forefoot hobbles. B: hind foot fetter. C: tiger-mouth (thrown on hind foot). D: Hooked ear – noose.

5.2. Stick, rod, ankus and pole

Normally elephants are led with a rod or stick. To reach better control over the elephant the ankus is used. To keep bulls short before and after musth under control long poles with sharp points are used.



**„Long“ ankus (only used
in Sri Lanka)**



**Pole (Today only used
in temples of Kerala)**



**Forms of ankus to control war elephants in
Northern India**

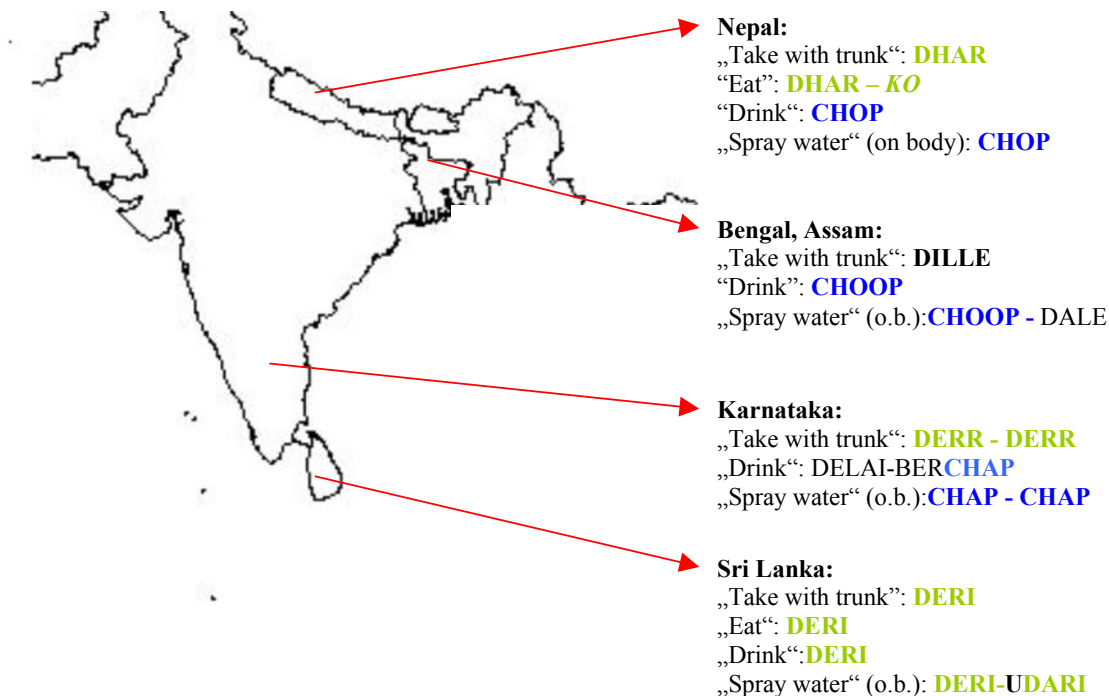
6. Some spoken commands

There is no „international language“ to communicate with elephants. Often the commands are given in the language of the mahouts. However, there are also introduced commands. In Kerala often the word “ane” or “ana” (elephant) is added to the command.

	Spoken command					
Country	Go forward	Stop	Go backwards	Lie (on belly)	Lie on one side	Get up
Sri Lanka	Daha, D'ha	Ho, Hoow	Tet - tet	Hida	Hida	(Daha)
Karnataka	Mall - mall	Tschoro	Dett - dett	Bait – bait	Terre – terre	Som – som
Kerala	Nadayane	Nilke		Averdirriane	Kedane	Elanadayane
Nepal	Agad		Chau, Piche hat		Sut	Maiei
Bengal, Assam	(Agad)	Dhutt, Datt	Pisoo, Pichoo	Beit	Tere	Meile, Mut
Myanmar	Tet	Yat, Howlar	Sout	Met	Chat - met	Hta
N. Thailand	Pai, Pā	Haou	Toei ma	Nang – long	Non - long	Luuk
Kedah (Malays)	Hee	Hoh		Terum		Puan
Perak (Malays.)	Hee - hee	Hoh – hoh	Tuhuh-tuhuh	Terum - puan		Guling
Jalan	Jalan	Diam	Mundur	Tidur		Bangun

7. Some relations between different mahout societies

A number of commands are used from several mahout societies. They stem from the same manuals on elephant treatment or from shifts of mahouts from one region to another (e.g. from Bengal to Karnataka or from India to Sri Lanka (19th century). A few examples are given below:



8. The keeping systems

8.1. The two systems of keeping elephants

Extensive system

Location: Mainly jungle-based camps
Ownership: mainly government, occasionally private
Mahouts: mainly tribal people with long traditions
Social status of mahouts: relatively high
Skills of mahouts: high
Tools used: stick, ankus
Accidents: very rare
Drug problems: practically absent
Fluctuation of personal: rare



In jungle camps extensively kept elephants live in their natural habitat.

Intensive system

Location: temples, cities, tourist-centres
Ownership: mainly temples or private
Mahouts: increasingly low-cast men without tradition and training
Social status of mahouts: increasingly low
Skills of mahouts: increasingly low
Tools used: sharp ankus, knife, stick
Accidents: increasingly very common
Drug problems: very common
Fluctuation of personal: high



In cities intensively kept elephants have to live far away from their natural habitat.

8.2. The significance of captive elephants

Originally captive elephants have been a status symbol for god-kings, kings and tribal chiefs. They were used in wars, for transport, as well as for logging. Today they are paramount as monitors to control wild elephants. They carry wildlife personal for survey and tourists. They are displayed in temples; and they have to beg, to play polo, to paint, to play music, and partake in shows.

Extensive system

Elephants used for forest work, transport, surveys, eco-tourism and monitors



Timber elephant (Myanmar)



Monitor (India)

Intensive system

Elephants are used for parades, carrying tourist, shows and begging



Temple elephants (Kerala, India)



Elephant show (Sumatra)

8.3. The daily activity of captive elephants and food

Extensive system

Free movement: When not working free in the jungle with hobbled forefeet
Activity centres: \pm defined by elephants
Quality of food: \pm divers, often additional ratios
Choice of food: \pm by elephants
Feeding periods: \pm permanent
Bathing, skin care: active & by man
Sleeping place: found by elephants



During 7 – 9 months / year timber elephants work daily for 5 – 7 hours. During their free time they roam in the jungle, where they find food and meet with wild conspecifics. (Mudumalai, Tamil Nadu, India)

Intensive system

Free movement: 12 – 22 /ours/day in chains
Activity centres: defined by man
Quality of food: monotonous
Choice of food: by man
Feeding periods: 1 – 3 feedings / day
Bathing, skin care: by men
Sleeping place: chosen by man



When not used for work, intensively kept elephant are chained (Sri Lanka).



In South Indian jungle camps additional food ratios (rice, millet, coco-nuts, sugar, salt) are prepared and given to the timber elephant twice a day (Mudumalai, Tamil Nadu, India)



Intensively kept elephants are fed by man with a few plant species. In Sri Lanka food consists mainly of leaves of Coconut and Kitul palms and branches of Jackfruit-trees and stems of Kitul palms.

8.4 Reproduction rate

Extensive system

In the extensive keeping system social contacts are allowed. Reproduction, if wanted by the owners, is relatively common.

Intensive system

Social contacts between elephants are not allow. Reproduction is practically absent. Often the elephants are kept under such miserable condition that they are neither physiologically nor socially fit for reproduction

8.5. Population structure

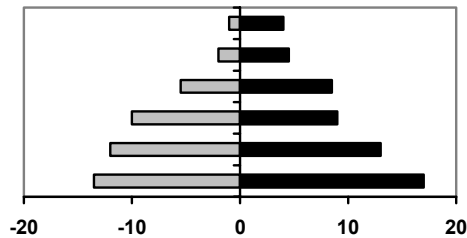
Extensive system

Population structure is heterogenous, i.e. all sex and age classes are more or less equally distributed.

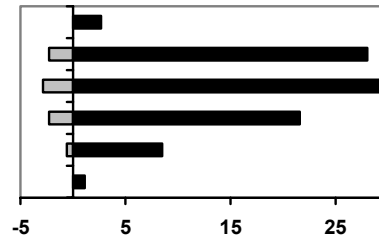
Intensive system

The population structure is more or less homogenous, i.e. certain age and sex classes are dominantly present

Breeding, not self-sustaining pop.:
Myanmar MTE 1992 (n~2800)

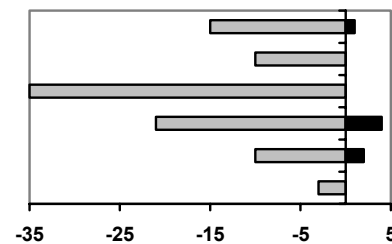


Not breeding population
Jaipur 2002 (n=88)



Remark: The social structures are depicted as "pyramids". Left side: bulls; right side: females. 6 age classes of 10 years are distinguished. Lowest bar: animals between 1 and 10 years; top bar: animals between 51 and 60 years. Data are given in % of total population.

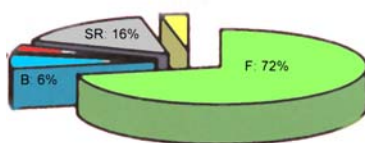
Not breeding population
Kerala temples 1993 (n=108)



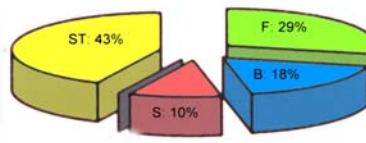
9. Musth

Musth is rut. Musth bulls are extremely aggressive, mainly against their mahouts. In captive elephants musth means serious problems for men in charge of musth bulls. However, musth bulls were important in war and religion. As long as the State Elephant was in musth, the country was fertile.

Non – musth bull



Musth bull



Daily activity of non-musth and musth bulls

F: feeding; B: bathing, skin care; S: social behaviour, SR: sleep and rest; ST: stereotypies



Often the opening of the temporal gland and the musth fluid were made prominent by means of a "yack-tail".

9. Present population of captive Asian elephants

Country, place	Population	Pop. Trend	used for:			
			Forest, Capture Training	Ceremonies	Begging, Show	Eco -tourism
Bangladesh	50	neg.	+	+	-	-
Cambodia	144	neg.	+	+	+	-
India	3600	stabile	+	++	+	+
Indonesia	400	neg.	(+)	(+)	++	+
Laos	920	neg.	++	n.d.	n.d.	n.d.
Malaysia	8	n.d.	+	-	-	-
Myanmar	5700	stabile	++	+	-	-
Nepal	127	stabile	-	(+)	-	++
Sri Lanka	186	neg.	-	++	++	(+)
Thailand	2568	neg.	+	(+)	++	(+)
Vietnam	225	neg.	+	n.d.	n.d.	+
Total	13928					
Zoo, circus	≥1047	neg.				
Total	ca. 15000					

Pop. Trend can be negative (neg.) or stabile. (+) rare, + common, ++ very common, - not existing. n.d.: no data. Sources: FAO (Bangkok), AsESG, EEG.