

## ACTIVITIES OF THE AESG

The Asian Elephant Specialist Group held its third meeting in Chiangmai, Thailand on 19-21 January 1988. The meeting was convened by the Chairman to discuss *inter alia*, the draft Action Plan for Asian Elephant Conservation. More than 40 participants attended the meeting which was hosted jointly by IUCN/SSC and the Royal Forest Department of Thailand. The meeting was attended by members and observers from a number of countries such as Sri Lanka, India, Thailand, Malaysia (Peninsular), Sabah (Malaysia), Indonesia, Laos, Vietnam, the People's Republic of China, Canada, United Kingdom and USA. Representatives from IUCN and WWF-International also attended the meeting.

Many organizations provided financial assistance to enable the AESG to hold this meeting in Thailand. In particular, the World Wide Fund for Nature (WWF) in Switzerland, the Bristol Zoo (UK), the Dickerson Park Zoo (USA) and the Zurich Zoo (Switzerland) contributed generously to the meeting. We offer our sincere thanks to these organizations for their help. The meeting could not have been a great success if not for the untiring efforts of Mr Anan Nalampoon of the Royal Forest Department. Our thanks to him and to the Royal Forest Department for all the help rendered to the Asian Elephant Specialist Group in Thailand.

Workshops on the following themes were held during the meeting:-

1. Management of domestic and captive Asian elephants. Chairman: Dr Mike Schmidt
2. Human-elephant conflicts: policies for their resolution. Chairman: Dr R. Sukumar
3. Conservation and development: a new approach to habitat conservation. Chairman: Prof. D.K. Lahiri-Choudhury
4. Appropriate conservation policies for Asian elephant populations. Chairman: Mr J.C. Daniel

5. Regulating the trade and use of ivory. Chairman: Mr Peter F. Jackson

The AESG members recommended that:

1. the Asian elephant Secretariat be revived and that it be situated at a place where suitable facilities already exist: e.g. the Bombay Natural History Society or the Centre for Ecological Sciences at the Indian Institute of Science, Bangalore.
2. major development projects should not be allowed in such areas without due regard for the possible impact on elephants and other wildlife on the basis of a comprehensive evaluation of the projects by relevant experts;
3. governments exercise the utmost caution in sanctioning the establishment of new industrial units in elephant and other wildlife habitat, and that, as far as existing industrial units are concerned, strict monitoring be carried out to ensure that effluents are so treated that they are rendered harmless and thus do not cause environmental pollution;
4. every effort be made to ensure that the necessary funds are obtained to maintain the post of CITES Ivory Officer on a long-term basis.

The AESG Meeting ended with the following resolution:-

Recognizing that the Asian elephant is an animal of deep cultural and economic significance to the people of tropical Asia;

Aware that the conservation status of the Asian elephant is a matter of grave concern throughout its range;

Greatly appreciative of the fact that China, Laos, Vietnam and Sabah have sent representatives to a meeting of the IUCN/SSC Asian Specialist Group for the first time;

The third meeting of the IUCN/SSC Asian Elephant Specialist Group urges that close contacts be established with governments of countries in which the Asian elephant occurs but with which no such links exist at the moment, namely Bangladesh, Bhutan, Burma and Kampuchea.

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#### FEATURE ARTICLE:

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Prof. D.K. Lahiri-Choudhury has been an active and lively member of the AESG since the beginning. Last year he contributed a paper entitled, "The Indian Elephant in a Changing World" which was published as Chapter 19 in *CONTEMPORARY INDIAN TRADITION*, ed. Carla M. Borden, Washington: Smithsonian Institution Press, 1988, pages 301-321. Here are a few excerpts:-

It is difficult to imagine India without elephants; they are so much a part of India's myths, history, and cultural heritage. The mount (*yabana*) of Indra, the king of the gods, the counterpart of Zeus in the Hindu pantheon, is the celestial elephant Airavata. Of all gifts, the gift of an elephant has the highest sanctity and indemnifies the donor against the danger of Hell..... And who does not know of Ganesa, the elephant-headed god of wisdom and success?

Elephants are wide-ranging animals, and in Indian conditions reserves cannot be demarcated for them everywhere to protect their entire range. ....the main threat to elephants comes from threat to their habitat. And it is in the habitat where things have changed most in recent years under pressure of increasing human population..... Although officially only about 23 percent of the country's land area is under the control of the forest department, by 1980-82, according to satellite data, the total forest cover in India had been reduced to 14.1 percent, and the loss in the country's forest cover between 1972-75 and 1980-82 was 16.25 percent or one-sixth. During this period, closed canopy forests, which occupy a

crucial position in the mosaic of vegetation types constituting an elephant, range dropped from 14.12 percent to 10.96 percent; in absolute terms, India lost 10.4 million hectares of closed-canopy forests, and an additional 1.29 million hectares of such forests were converted into degraded forests. The rate of loss was 1.3 million hectares of natural forests every year, a loss that cannot be compensated for fully by afforestation programmes because of the impossibility of achieving the genetic diversity of tropical natural forests in a man-made forest, however well made. Besides, these plantations aim at production of timber and thus tend to rely on quick growing species, often exotics. One informed guess is that the natural forest cover in India today, the elephants' preferred habitat, would not exceed 6-7 percent of the total land area. It should be noted that much of this meager 6-7 percent would be in the hills in the temperate and higher regions, and thus beyond the normal range of elephants. Saving the Indian elephant is largely a matter of saving the scant residue of natural tropical and subtropical forest cover.

The loss of forests has been going on since the days of the Indus Valley civilization (c. 2500-1500 B.C.). If an elephant distribution map for ancient India were made, it would probably cover all of India: from the present Thar Desert in the west to the evergreen forests of north-eastern India, from the Himalayan foothills in the north to Cape Comorin in the south, with scattered patches of human settlements along the fertile river valleys.

The Aryan invasion that came from the northwest and spread along the Ganges Valley caused what was probably the first major crack in the compact elephant habitat, which eventually permanently separated the southern from the northern population..... The process of deforestation accelerated dramatically after independence in 1947..... The resultant picture is the same everywhere: loss and degradation of habitat leading to increasing, and increasingly direct, human-elephant confrontation, an unequal conflict in which the elephant is bound to come out the loser..... contraction and loss of habitat have made it antagonistic. People encroach on the elephant's land; elephants eat the crops on the occupied land

or ravage property; people strike out at elephants for doing this, elephants retaliate. More than 100 people were killed by elephants in the small state of West Bengal alone between 1975 and 1982, and between 1979 and 1984, 211 people in Assam. The value of crops and property damaged or destroyed by elephants would come to millions of rupees.

In such areas, the elephant has become the people's enemy, the symbol not of wisdom but of destruction. Few stop to think that this reversal of role is the result of human folly and greed, and that destruction of forests is ultimately working against long-term human interests. Deforestation has now reached such a level that, causing soil erosion and affecting the water regime, it has become the root cause of major environmental disaster in many regions.

The human-elephant confrontation in many parts of northeastern India has become so critical that it is often a political issue of the first magnitude.....Numerous and varied experiments with anti-elephant depredation measures have been carried out. Energized fences are now in use at a number of places in India....Among the more exotic experiments carried out recently were one with tiger urine and tape-recorded tiger calls, and one with tear gas.

Humans' present relation with elephants in the wild is just one half of this story. The other half concerns the elephant in captivity, the story of the elephant as people's friend, and how it is being affected by the altered status of the animal in the wild.....The simple fact of the matter is, elephants are no longer available for domestic use.

This brings us to several important issues concerning the management of the species. It has already been pointed out that about one-third of the present population of wild elephants in the country face the prospect of elimination in not too distant a future. Should we then try to save these animals? Is that a feasible proposition? Or should we accept things as they are, acknowledge the reality of drastically reduced forest areas as change irreversible, and reconcile ourselves to the

idea of a population of about 12,000, kept stable by judicious culling by capture, in place of the present 19,000-21,000?....If the habitat of the identified critically endangered populations cannot be legally secured and effectively protected, there is no alternative to large-scale culling by capture. In some parts of Arunachal Pradesh, most of Nagaland and Meghalaya, and much of Mizoram and Tripura, forests do not even enjoy legal protection under the Indian Forests Act. In the case that culling is the choice, CITES notwithstanding, we have to think of the most rational way of disposing of these unwanted animals. And, to ensure the survival of the species, is it absolutely necessary to sever the special millenia-old tie between people and domesticated elephants in India, and treat elephants as just another wild species that is best left wild? Is there no alternative to killing off a three-thousand-year-old tradition and a whole way of life?

We have already lost too much of our forests and are just beginning to realize that people need them quite as much as the animals. The persecuted state of our elephant population reflects the present status of our tropical and subtropical forests. If we can protect and manage, conserve, what we have even now.....and from the rapacious plunder of some of our richest natural resources - and the elephant stands at the head of the list - as in the past, we can move to an era of scientifically managed sustainable yield. Then the elephant can continue to occupy the very special niche it has always occupied in India's history, coming from the wild and yet becoming a friend of humankind.

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## REGIONAL NEWS

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**INDONESIA: Plan to kill rampaging elephants criticised**

The Lampung Provincial Administration in Sumatra, Indonesia and the local House of Representatives (DPRD) have disagreed with the decision by the local authorities in Belalau sub-district to kill elephants whenever they find the

protected animals on the rampage. "However that may be, we should not kill the animals. We have to find other methods to solve the problem", Chairman of the Lampung DPRD, Alimuddin Umar said in Bandar Lampung, the provincial capital.

The local authorities in Belalau subdistrict, North Lampung, decided in early August 1988 to kill the rampaging elephants because they had caused great losses to local villagers. In May, June and July 1988, a herd of wild elephants was reported to have frequently harassed Belalau subdistrict areas, killing one villager, injuring three others, damaging 28 houses and trampling hundreds of hectares of plantations. The decision was made by the local Belalau administration after the local officials met. They agreed that they could not find any other method to cope with the elephant problems. Umar said that he understood how the Belalau people perceive the elephant problem. "But we are going to try other methods to cope with the rampaging elephants, not kill them". The DPRD Chairman told the press in the city that he was confident that the Natural Resources Conservation Agency (BKSDA II in Tanjungkarang headed by Mr Widodo Sukohadi Ramono) would be able to overcome the elephant problem in the area. The Lampung Deputy Governor said that the areas with the biggest elephant problem are former elephant habitats that have been turned into residential areas and reserve forests. He suggested that the people living in those areas should move to other locations if they want the problem solved. "I am of the opinion that the only way to cope with the beast problem is to move the villagers from the former elephant habitats. If not, the problems will continue," said the Deputy Governor. He added that, "it is not difficult to catch some wild elephants, but when we catch them, more elephants even in greater numbers, will come into the areas since they think the locations are their habitats." (The Jakarta Post, 10 August 1988)

**INDONESIA:** Lampung forests face extensive destruction

Deforestation in Lampung province in Sumatra has expanded by 69% from 416,025 ha in 1980 to 703,791 ha in 1988, said a forestry official in Lampung. Mr Pangeran Napitupulu, the Chief of the Ministry of Forestry's provincial office, reported to the Minister of Forestry, Mr Hasjru Harahap that the damage to forests has been mainly caused by illegal settlers, who cut trees and open new rice fields or plantation areas in forests. Mr Napitupulu said that the damaged forests cover about 51% of the 1.23 million ha of forest areas in the province. The damaged forest, he added, include 326,396 ha of industrial timber estates, 250,020 ha of conservation forests and 127,375 ha of wild animal reserves.

The deforestation is so serious that land slides and floods in South Lampung claimed hundreds of lives in October 1986. To stop further damage to the forests in the province, the local Government is now trying to move the illegal settlers - estimated to have reached 34,345 families in 1987 - away from forests under a coordinated migration programme. Mr Napitupulu said that the government would also encourage forest concessionaires to reforest areas whose trees they had cut down. None of the three concessionaires operating in Lampung have ever paid their reforestation contributions, which now reach Rp. 1.7 billion (about 1 million US dollars). He said a concessionaire which promised to reforest a 25,000 ha area, had failed to do so and planted cassava trees instead of industrial timber in the area. Mr Napitupulu said that the deforestation had caused wood-based industrial firms in Lampung to lack raw materials. (The Jakarta Post, 3 August 1988).

**INDONESIA:** Nation warned of damage of forest destruction

The Minister of Forestry, Mr Hasjru Harahap has warned all sides against repeated incidents of forest destruction which have only posed problems to the nation. Briefing forest concession holders in the South Kalimantan capital of Banjarmasin in August 1988, the Minister said that his

Ministry was focussing its work on three programmes to maintain the country's forests. The programmes include matters related to the use and conservation of forests, the development of timber estates and the solution to nomadic farming problems. He added that his Ministry would need full support from all sides, including private and government agencies, to carry out these three main programmes. The government allows forest concession holders to make use of the country's forests but they are urged to maintain the environment and firmly obey regulations. "Cut only the trees which are allowed and let young trees grow" said the Minister to forest concession holders. Mr Harahap said that South Kalimantan province has about 300,000 ha of production forests and about 1 million ha of unproductive land.

Forest destruction may create an environmental imbalance which can threaten mankind. Earlier the geophysics and meteorology agency had warned the government that a decision to allocate five million ha of forests in Central Kalimantan for gold mining will cause much more carbon dioxide to accumulate. The opening up of the forests will drastically increase forest destruction in Kalimantan, which plays an important role in the country's weather system. Kalimantan is located in the equatorial area where much of the solar energy is accumulated.

(The Jakarta Post, 20 August 1988).

#### **THAILAND: Elephants benefit from the Government's ban on logging**

Over the last two decades, the plundering of the earth's resources and the increasing damage it is doing to the globe's ecology have become the subject of deepening concern world-wide. Like other countries, Thailand is facing the problems that come with a growing population, diminishing resources and conflict between the political-economic elite over development policies. The Thailand Government made a brave and unprecedented policy decision in a swift move to stop all logging in its forests. This was done against strong opposition from agencies that benefit from timber

extraction. By this action, the Government of Thailand had stepped in, although rather late, to arrest the indiscriminate forest destruction that had been going on for decades. This must be considered good news for not only the elephant population which is seriously threatened in Thailand but for other wildlife and more importantly to the people at large. The recent floods in southern Thailand has been directly linked to the misuse of land by man.

"Forest cover has been reduced by more than 60 percent. Flooding, soil-erosion, land, water and air pollution and changing weather patterns have already made their mark on the national fabric, and ecologists leave us in no doubt that unless tackled at source, environmental degradation on this scale will quickly reach the stage at which it becomes irreversible", wrote Charles Browne, a journalist to the Prime Minister in 1987 (Bankok Post, 15 July 1987). The latest action by the Thai Government is indeed courageous and one that sets an example for many other South-east Asian countries to follow.

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#### **RESEARCH NEWS:**

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##### **Male-Female differences in foraging on crops by Asian elephants**

Dr. R. Sukumar  
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Males and females may differ in morphology or behaviour because of contrasting factors affecting their reproductive success. In polygynous mammals with a marked sexual dimorphism, males are more likely to exhibit risky behaviour promoting reproductive success. In a study conducted by Dr Sukumar in a forest area (1130 km<sup>2</sup>) in the Chamarajanagar and Satyamangalam Forest Division of Southern India, there comes evidence to show that pubertal and adult male Asian



elephants, *Elephas maximus* (above 15 yrs.) incur greater risks than female-led family herds by foraging on cultivated crops which have more nutritive value than wild food plants. Peak raiding season was October-December when finger millet, *Eleusine coracana* was in its flowering and grain stages.

Adult bulls raided crops more frequently than did the family herds throughout the year. This was most obvious during October-December when an adult bull raided crops on 38 nights on average while a member of a family herd did so on only 6 nights, deriving 26.7% and 4.5% of their total food requirement, respectively. For the entire year, adult bulls derived 9.3% and female herds 1.7% of their diet from cultivation. Male elephants appear to respond to the risks during raiding by forming larger groups. While solitary bulls constituted 93% of the total bull group sightings in the forest (N = 113) during the day, only 58% of crop raiding bull groups (N = 305) were solitary bulls. The additional risks accepted by elephants in raiding could be related to the higher nutrient value of crops compared to analogous wild plants. Increased nutrition from crops may contribute towards better survival, growth, maintenance of good physical condition and, for bulls, an increased success in male-male competition. (Source: *Animal Behaviour*, Vol. 36 (4): 1988. 1233-1235).

#### Talking elephants?

While observing a group of elephants in 1985 at the Washington Park Zoo in Portland, Ore., Katharine Payne, a Cornell University Biologist, felt unusual throbbing sensations in the air around her - "like the vibrations from the lowest note on a big pipe organ", she recalls. After further investigation, Payne and fellow Cornell researchers found that the giant animals make a variety of calls in the frequency range of 14 to 24 hertz, below the threshold of human hearing. The discovery indicates a more sophisticated complex of elephant communication than was previously recognized.

Since very-low frequency sounds travel great distances before losing their strength, the use of infrasonic calls may explain at least two mysteries that have long puzzled elephant field researchers: the ability of male elephants to find females several miles away during the two days each month that the females are fertile, and the sudden coordinated movements of large groups of elephants when no signal is apparent to human observers. (Source: Bayard Webster in *New York Times*).

Genetic variabilities within and between Sri Lankan and Indian subspecies of the tamed Asian elephant, *Elephas maximus*

Blood samples were collected from the Sri Lankan and Indian subspecies of the tamed Asian elephants and genetic variations within and between them were screened by starch- and polyacrylamidegel electrophoretic examinations. Number of genetic loci screened was 33. The experimental results showed that the genetic variabilities with subspecies were low like as observed in other non-domesticated large mammalian species, and that the genetic divergence between the two subspecies was about on the same level as observed between two subspecies of Japanese macaques. At the Tetrazolium oxidase (To) locus a complete allelic substitution was observed between the Sri Lankan and Indian subspecies of Asian elephants. (Source: Shotake, T., Nozawa, K., Singh, M., Cyril, H.W. and Cruz, H. 1986. Report of the Society for Researches on Native Livestock No. 11: 215-221).

#### How the elephant got its wrinkles?

Elephants are wrinkly. Furthermore African elephants are wrinklier than Asian elephants. According to Havey B. Lillywhite and Barbara Stein, of the University of Kansas, the wrinkles are there because the animals need to keep their bodies cool and their skin moist (*J. Zool.*, 211. p.727, 1987). Lillywhite and Stein had already shown that the peculiar sculpturing of the skin on the belly of some toads helped the toad to absorb moisture

from damp ground. It was found that the casts of elephant skin held between five and ten times more water than a flat surface. Furthermore, the skin of the African elephant held roughly half as much again as the skin of an Asian elephant. The differences between African and Asian elephants relates to the different kinds of habitat each lives in. African elephants are often in very dry, open environments, where heat and loss of moisture are severe problems. Asian elephants, on the other hand, tend to live in forests where they suffer much less direct sunlight and the atmosphere is wetter. An interesting confirmation of these ideas might be provided by the small forest elephants of Africa. Will their skin be like that of the Asian elephants, whose environment is similar, or will it resemble their closer relatives, the savannah elephants?

(Source: New Scientist, 21 May 1987).

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#### INTERNATIONAL MEETINGS

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The Vth International Theriological Congress (V ITC) is organized by the Department of Animal and Human Biology of the University of Rome "La Sapienza" on behalf of the Section of Mammalogy of the International Union of Biological Sciences. It is scheduled to be held from 22 to 29 August 1989. All the scientific sessions will be held in the Campus of the Università di Roma "La Sapienza", one of the most ancient Universities in the world, founded in 1303. There will be a symposium on:-

Evolution and paleoecology of Proboscidea

Conveners:

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Dr Pascal Tassy  
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XIX Congress on International Union of Game Biologists will be held on 8-13 September 1989 in Trondheim, the old capital of Norway. The congress will present lectures, symposia, contributed papers, poster papers, workshops and films. Further information from:-

Dr Svein Myrberget,  
Secretary General  
Norwegian Institute for Nature Research  
Directorate for Nature Management  
Tungasletta 2  
7004 Trondheim, Norway.

64th Meeting of the Species Survival Commission (SSC) of the IUCN is scheduled to be held on 20-22 August 1989, in the Department of Animal and Human Biology, University of Rome, Italy. The programme topics include:-

Heritage Species Programme  
Specialist Group Reports  
CITES: Review of Proposals  
SSC's Niche in IUCN  
Action Planning

Further information from:  
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