

TIGER LINK

A Linkage of Concerned People and Organisations
across the Globe to save the Tiger

NEWS

Vol. 2, No. 1, June 1996

Tiger Link Awards

At the inaugural TigerLink meeting in February 1995 the **Edgeworth Trust India** initiated the idea of TigerLink awards to acclaim the 'unsung heroes'—those who have dedicated their lives in the field of saving the tiger and its habitat. **Global Tiger Patrol**, in collaboration with **Esso U.K.**, and **Valmik Thapar**, also contributed generously to the award fund. At special ceremonies held in Assam, Karnataka, Madhya Pradesh and Tamil Nadu, the 'Tiger Link Bagh Sevak' awards, carrying a purse of Rs10,000 each, have been presented to the first 13 recipients. In addition, a special award, with a purse of Rs 50,000, was conferred on **Mr K.M. Chinnappa** for his lifetime contribution to the conservation of tigers and their ecosystem.

In recognition of the special service given by these 'foot soldiers' of the tiger conservation cause we share some brief information on each recipient.

Karnataka Winners

♦ **Mr K.M. Chinnappa**, retired Range Forest Officer, joined the Karnataka State Forest Department in 1965 and opted for the wildlife wing when it was established in 1967. Here he came under the influence of Late Mr K.P. Achaiah, who was an expert in elephant capture and domestication, besides being a pioneer wildlife protectionist.

Mr Chinnappa served in Nagarhole for almost the full period of his nearly three-decade forest service, during which time he pioneered model anti-poaching and fire protection schemes. In each of the ranges he served, he turned them from areas afflicted by rampant poaching,

large-scale wood smuggling, widespread arson, illegal cattle camps and illegal cultivators into true sanctuaries for wildlife. Animal numbers increased dramatically and Nagarhole National Park soon drew national and international attention as a rich wildlife area.

Such achievement was not reached without cost to Mr Chinnappa—he at times clashed with his own superior officers and he became extremely unpopular with certain local politicians and other influential persons who supported the wood smuggling and illegal land encroachment. He became the victim of a massive vilification campaign to the extent of being falsely accused and arrested on a murder charge of which he was later cleared by official enquiry. Political pressures led to him twice being posted out of the Park—in 1988 and again in 1990—but on both occasions he was brought back within two years and, in response to pressure from conservationists, was re-posted in Nagarhole.

In recognition of his outstanding work in wildlife protection, Chinnappa won the Karnataka Chief Minister's gold medal in 1985.

In 1989, he won the prestigious Wildlife Conservation award of the New York Zoological Society (now known as Wildlife Conservation Society).

During his career in Nagarhole he detected more than 40 poaching cases and was involved in shoot outs with several notorious local poaching gangs. In March 1992, following the discovery of the notorious poacher, Chippa, in the forests, a locally inspired mob frenzy erupted, alleging that Chinnappa was responsible for his

Congratulations to:
**TIGER LINK / BAGH
SEVAK AWARD
WINNERS:**

Karnataka

❖ **Mr K.M. Chinnappa** ❖
Mr S.N. Devaraju
Mr B.M. Subbaya

Assam

Shri A.K. Brahma
Shri Babul Bora
Shri D. Boro
Shri Sanatan Borkachari
Shri Bauikanta Saikia
Shri Pankaj Sarma
Shri Bhupen Talukdar

Madhya Pradesh

Shri Nasir Baig
Shri Anil Kumar Jain

Tamil Nadu

Shri V.K. Subramaniam
Shri A.V. Tarsius

Tiger Link Awards

murder. The mob raided the Park, burnt buildings and vehicles and torched down 30 square kilometers of forest. After hiding in the forest, Chinnappa returned to Nagarhole the same day and was involved in fighting the fires! The Government ordered an enquiry and the mob leaders were charge-sheeted for arson and rioting. Mr Chinnappa was cleared of the accusations. However, although he had eight more years of service to go, in view of the continued threats and pressures, he decided to resign and dedicate the rest of his life to lobbying for strong protection to Nagarhole, and to the task of educating local youth about wildlife. He now heads the NGO initiative *Wildlife First!* operating in Karnataka and the *Nagarhole Wildlife Education Project*, run with assistance from the Wildlife Conservation Society, New York and Global Tiger Patrol, UK. Throughout his distinguished career, his wife Radha Chinnappa has been a major source of strength to Mr Chinnappa, sharing equally in all his troubles and triumphs.

▪ **Mr S.N. Devaraju** joined the Forest Department as a Range Forest Officer in Bandipur Tiger Reserve in 1978, after obtaining a master's degree in Zoology from Mysore University. He has excelled in anti-poaching work, fire protection work and other aspects of wildlife protection doing an exceptional job in fire fighting and controlling the rampant sandal smuggling for which he won a government reward. He was then transferred to Nagarhole National Park where he served with great distinction as Range Forest Officer of Kallahalla, Sunkadakatte and DB Kuppe Ranges of Nagarhole National Park, until his recent promotion to Assistant Conservator of Forests, Sulya, Mangalore Forest Division. Throughout his career he has supervised the crackdown on over 20 poaching cases, innumerable smuggling cases and has excelled himself in fire fighting and taking on local political forest mafias. His most notable case was the daring capture of the notorious elephant poaching gang of Kunuju Auguste Sebastian in

the Nagarhole Forests in 1986.

▪ **Mr B.M. Subbaya**, Forest Guard, Guddahalla, Kushalnagar Range, Madikeri Forest Division, Kodagu, Karnataka. Mr Subbaya joined Karnataka Forest Division as a Forest Guard in 1967 and has served the Department with distinction since then. He served in the Nagarhole Wildlife Range for five years from 1987 and excelled in anti-poaching work. He was a key person in many incidents involving arrests of notorious poachers and in cases involving the exchange of fire with poachers. His most famous encounter was with the gang of poachers led by the elusive 'Big Foot' in early 1991. Following an exchange of fire with forest staff, 'Big Foot' retreated from the forest, never to enter Nagarhole again. Because of his dogged pursuit of local poaching gangs, Mr Subbaya became a marked man by local poachers, and narrowly missed being killed during the poacher-sponsored riots in Nagarhole in 1992.

He is also very capable in fire protection duties, and has excellent knowledge of wildlife field craft. He excelled in handling of sedated tigers during captures for research. It is regrettable that even after 30 years of service as a 'trench warrior' of conservation, men like Mr Subbaya will retire at the same level at which they joined.

Assam Winners

▪ **Shri A.K. Brahma**, Range Officer, Bansbari Range, Manas Tiger Reserve, since joining the service on completion of his ranger's training, has all along been posted in the Manas Tiger Reserve. He is a very hard working and courageous officer who has risked his life time and time again in anti-poaching duty. He was seriously assaulted by a group of terrorists and poachers who hacked him with a kukri. He narrowly survived at the Guwahati Medical College Hospital. He has excellent knowledge about wildlife and is trained in wildlife management.

▪ **Shri Babul Bora**, Home Guard, Kaziranga National Park, is not a Forest Department employee, yet he

has taken part in armed encounters with poachers and was seriously injured in such an encounter on 5 May 1994. As a result he had to be hospitalised for a long period, and has developed a permanent limp.

▪ **Shri D. Boro**, Range Officer, Eastern Range, since joining the service on completion of ranger's training, has served in wildlife and is presently posted in Agaratoli, Kaziranga N.P. Very hard working and courageous, he does not hesitate to risk his life in anti-poaching jobs. He has faced many armed encounters and captured many illegal arms from the poachers. Well versed in jungle craft he can easily live off the jungle for short spells.

▪ **Shri Sanatan Borkachari**, Forest Guard, Manas Tiger Reserve, has served the cause of tiger conservation for the last fifteen years in Manas. A 'dare-devil' character, he has been involved in numerous hand-to-hand fights and shoot-outs with poachers and been instrumental in the capture of many of them. He is also a 'master' in jungle fieldcraft.

▪ **Shri Bauikanta Saikia**, Departmental Driver, Kaziranga, has shown extraordinary zeal in anti-poaching works and has taken part in encounters himself. He has also provided invaluable information about poachers' movement etc. All these he has done beyond his duty, in the interest of saving wildlife.

▪ **Shri Pankaj Sarma**, Range Officer, Western Range, Baguri, Kaziranga N.P., is an extremely hardworking, dedicated and intelligent officer, who has been working in wildlife for nearly a decade. He has risked his life many times in armed encounters with poachers. His knowledge about avifauna is excellent and he is trained in wildlife management.

▪ **Shri Bhupen Talukdar**, Range Officer, Central Range, is an extremely honest, hardworking officer, trained in wildlife management who has been serving wildlife for about 10 years. He has done wonderful anti-poaching work in Orang Sanctuary (now Rajiv Gandhi Wildlife Sanctuary) and

Pobitra Sanctuary and taken high personal risks in anti-poaching work. He is now posted at Kohra in Kaziranga N.P. He is known for his outspoken and uncompromising single-minded devotion to wildlife, particularly in anti-poaching jobs.

Madhya Pradesh Winners

▪ **Shri Nasir Baig** is a forest guard of Bori Sanctuary whose great courage resulted in him being mauled by a bear that gouged out his eye. He has survived with one eye and is today one of those master trackers whose experience in tracking tigers is exceptional.

▪ **Shri Anil Kumar Jain** is now a beat guard in the Samardha range. In March 1996, his alertness and dedication resulted in two poachers being arrested in Rattapani, and recovery of a jeep with a searchlight, a blue bull and two telescopic sight rifles. This he did unarmed, with the help of villagers. This case shows Shri Jain's great diligence, his environmental consciousness, group leading capacity, power to convince people and his immense courage.

Tamil Nadu Winners

▪ **Shri V.K. Subramaniam** has been working in Kalakad Tiger Reserve, for the last three years. He is a person of sharp intelligence and deep commitment to the forest department. His services have been constantly utilized in almost every sphere of the department activities, particularly in the protection aspect, dealing with complicated court cases and imparting training to the staff.

He is one of the most active members of an Informal Quality Circle in this reserve which is committed to improving the efficiency of the management here. One of his most significant contributions in recent times has been the handling of more than half a dozen writ petitions and miscellaneous petitions filed by a multinational tea plantation company in the Madras High Court. His constant alertness in the Court prevented the company from subverting the law to their advantage. His good understanding

of the forest and related laws was of great help in clarifying issues instantly in the Court.

▪ **Shri A.V. Tarsius**, Forest Guard, is working in the Mancholai beat of Kalakad Tiger Reserve where a large multinational tea plantation company had been destroying forests to meet the firewood requirements of their three tea factories and of their work force. Attempts to stop them were met by direct assault by the company officials. But ever since Shri Tarsius was posted to this beat he has steadfastly refused to bow down to such tactics and has been successful in almost totally preventing illicit felling by this company. For the first time in the sixty-year-long history of this company they have now been forced to purchase firewood from private sources in the plains of Tamil Nadu. A major threat to the core area of this Project Tiger Reserve has thus been brought under control.

Congratulations also to :

Shri M.L. Pathak, Panna
Shri Sati, Corbett

• Shri Valmik Thapar in conjunction with the Cat Specialist Group (Indian region) IUCN and the Ranthambhore Foundation presented an award for excellence in tiger conservation and dedicated service to Panna Tiger Reserve. The 1995 **Panna Tiger Award** was presented to **Shri Moti Lal Pathak** in recognition of the incredible courage and bravery he has shown in his work in the Chandnagar Range of the Panna reserve. In January 1995, Shri Pathak was responsible for seizing a tiger skin from a poaching gang in Panna.

• The **Corbett Foundation** presented its first annual award of Rs10,000 to **Shri Sati, Forest Guard, Corbett Tiger Reserve**, for his excellent work in anti-poaching and anti-fishing operations in the park. The award is presented to the forester 'who contributes maximum to the preservation of the tiger or its prey species'.

Andhra Pradesh

♦ Dr A.J.T. Johnsingh, of the W.I.I. visited the **Srisailem Tiger Reserve** and reports disappointment at the lack of ungulate sightings and tiger evidence, as compared to a visit ten years previously. He fears for the survival of the wildlife, given the area's problems such as dam construction, pilgrimage, insurgency and biotic pressures from a nearly 16 lakh population in and around the reserve.

Assam

♦ In April 1996, members of the Tiger Crisis Cell, Shri S. Deb Roy, Valmik Thapar, Bittu Sahgal and Dr Ullas Karanth visited the **Manas Tiger Reserve** and **Kaziranga Tiger Reserve** in Assam. This resulted in several reports being sent to the Minister and to the Secretary MoEF regarding the serious situation prevailing in the PAs of Assam. This has resulted in the MoEF promising to look into the issues involved. Manas is a World Heritage Site and is unique in its population of endangered species. The area has been "*devastated and shattered in the last 7 years by insurgents, poachers and encroachers. It survives by the skin of its teeth. Rhinos are nearly extinct, swamp deer are decreased, hog deer decline, a large number of tuskers are being shot out*". There has also been a lot of damage done to the habitat though fortunately only in patches. "*The severest damage appears to be the loss of authority*".

The morale of the staff is reportedly at an all time low, the more so because their salaries are not being paid regularly. This has resulted in the MoEF promising to look into the issues involved. "*It was tragic to see that in April 1996, forest guards in both Manas and Kaziranga had not been paid their wages for three months!*" In such a situation they are incapable of combatting the poachers who are heavily armed with smuggled sophisticated weapons. To put Manas back on the rails will involve a series of activities spanning a long period but the most pressing

and important requirement is to re-establish government control and authority over the Park. In relation to this, the serious financial problems, where money for wildlife does not reach the field, need to be resolved immediately through a new mechanism for disbursement.

Additional equipment infrastructure is also required such as jeeps, boats and a truck. All are agreed that immediate, drastic action is required if Manas is to be saved. If Assam and the Ministry do not act appropriately, an appeal to the Supreme Court is being considered. Kaziranga is also suffering from similar disastrous financial problems and is surviving in spite of the problems of poaching, encroachment, fire and general lack of political support. This is entirely thanks to some hugely dedicated field staff, and Tiger Link was able to show some of its appreciation of their work and commitment to tiger conservation through the award scheme. However, in spite of the excellent staff, it is also said to be "on the precipice of a sharp decline" and a proposal to construct bunds for flood control is also a serious threat. Sahgal also reports the threat of pesticides to Kaziranga having found that many tea estates upstream still use the banned DDT to spray their shade trees. The budget for Kaziranga has reportedly fallen from Rs 50 lakhs to Rs 35 lakhs and there is not even enough money to buy fuel for the vehicles let alone pay salaries and keep up the roads, bridges, etc. in the park.

This state of affairs is shocking and appalling, especially so when it is happening to two of the most magnificent and highest profile Tiger Reserves in the country—Kaziranga and Manas.

♦ **Manas National Park**, a tiger reserve, a biosphere reserve and a World Heritage Site, beset by local insurgency and poaching problems is further punished by an **acute shortage of funds**. Rs 95.55 lakhs were sanctioned by the Government of India in 1995–96 under the Project Tiger scheme but only Rs.66.61 lakhs

of this was released. Neither the Eco-development amount sanctioned Rs 5.2 lakhs, revalidated from 1993–94, reached the Field Director nor the Rs 13.45 lakhs sanctioned for the biosphere scheme. Thus no maintenance and development works could be carried out in Manas during 1995–96. Manas is not alone in suffering such funding problems.

A special thank you to
Achintya (Manju) Barua,

a key person of Tiger Link activities in Assam, for all his invaluable help in making possible the Tiger Link Award presentation in Assam, in supporting Dr Karanth's field work in Kaziranga and his generous assistance to the many participants who have visited the area.

♦ The Jersey Wildlife Preservation Trust (JWPT), U.K. and the Pigs & Peccaries Specialist Group of the World Conservation Union (IUCN) have begun a research and captive breeding project on the Pigmy Hog. Animals in the **Manas Tiger Reserve** have been captured for radio-collaring and for removal to the breeding centre near Guwahati.

Tiger Link participants, Valmik Thapar and S. Deb Roy, on their recent visit to Assam, gave a **special award** of Rs 7,500 to **Garbo Mahut**, former Head Mahut of Manas, in recognition of his indigenous knowledge about pigmy hogs through which he captured all the animals for the JWPT monitoring and breeding project without one casualty or injury. This was in some acknowledgement of his important role in the project.

Bihar

♦ The regional INTACH group in Bihar is planning to hold a **seminar** in **June 1996** at **Rai (Ranchi)** on the threat to the wildlife corridors in the north Karanpura Valley in south Bihar. Aspects to be covered will

include future mine land use, the impact to flora and fauna of the region, local people's consultation, cultural rehabilitation and culture, the need for ASI clearance before mining, the rights of indigenous peoples and the protection of sacred tribal sites. For further information contact: Bulu Imam, Regional Convenor, INTACH, Hazaribagh 825 301. Fax: 06546 24228.

♦ **The Nature Conservation Society (NCS) in Daltonganj** has requested permission from S.P. Palamau to reward the police responsible for recovering one tiger skin, one leopard skin and 4 deer skins in a raid in Barwadih in the buffer zone of **Palamau Tiger Reserve**. Four persons were arrested who gave information of other persons linked in the operation.

NCS has set up an information network on poaching of animals and timber and a legal committee to follow through the cases. This has already resulted in the arrest of one person selling two leopard skins.

NCS endorses the 'Bagh Bachao Andolan' concept and organised a rally with more than 500 school children, youth and general public at Barwadih last October which gave representations to the forest officials on the theme.

NCS has created 4 teams of 10 Nature Club members who move by cycle to villages in the Daltonganj and Latehar forest divisions, spreading awareness and the 'bagh bachao—jungle bachao—Bharat bachao' message. Results are encouraging, with more volunteers coming forward and they hope to cover 100 villages in this way.

Karnataka

♦ **Wildlife First!** reports that it is currently conducting status surveys of the following wildlife PAs: Nagarhole N.P., Bandipur N.P., Billigiri Rangan Hills, Kaveri, Bhadrha, Puspagiri and Kudremukh and Talkaveri Sanctuaries. They are collecting data on diverse items from area patrolling, number of vehicles, firearms, poaching prosecutions and

known wildlife poachers to forest types, habitat status and the status of important indicator species, like the tiger, elephant, muntjac, boar, gaur, leopard, etc. Information on development projects, mining and tourism is also being compiled.

They have also been lobbying against insidious activities such as stopping green timber felling in sanctuaries and preventing an illegal road from being cut through **Puspagiri Wildlife Sanctuary**. This road has apparently been constructed by coffee planters through one of the richest evergreen forest areas of the State without any legal sanction and in contravention of the wildlife and forest acts. According to a report in the *Indian Express*, Bangalore, the Forest Department had turned a blind eye to this and the local BJP MLA inaugurated the road.

Wildlife First! is also active in pushing for a separate wildlife administration within the Forest Department.

The Forest Department has approached *Wildlife First!* to identify new areas to increase the National Parks and Sanctuaries in the area from 3% to 4.5%.

Wildlife First! organised the Karnataka function where the Tiger Link awards were presented to Mr Chinnappa, Mr Devaraju and Mr Subbaya. The chief guest was Shri N.V. Ramachandra Chetty, P.C.C.F., Karnataka. Dr Ullas Karanth and Valmik Thapar gave illustrated talks on different aspects of the tiger.

"Tiger Games" World Cup

◆ The Field Director, **Bandipur National Park** has released 'census' figures for the large mammals in this tiger reserve. The tiger population is shown to have increased from around 50 in 1992 ('93?), to 65-75 in 1995 (a fantastic increase of 30-50%!). An even greater increase in leopards has also been reported—from 50 to 80-90 over the same period. Elephant numbers have gone up from 1,200 to 2,000-2,200, gaur from about 1,100 to 1,200-1,400, sambar from 700 to 1,000-1,200, spotted deer from about 3,500 to 5,500-6,000 it is reported.

(Source: *The Indian Express*, Bangalore, 24 February 1996)

◆ Tiger Link participants visited **Kudremukh National Park** and **Bhadra Wildlife Sanctuary** as a result of which notes have been sent to the MoEF concerning the serious problems of iron ore mining, lack of staff and infrastructure and the non-compliance with various conditions by both dam projects and mining proponents in Kudremukh and the menace of fires, encroachments and illegal timber poaching which are having serious repercussions on the management in Bhadra. Detailed discussions were had with park officials and the PCCF. It is certainly a moment when the tiger and wildlife across the country are plagued with problems and some of these will only be resolved by constructive links made by the participants of Tiger Link and the Chief Wildlife Wardens of different states. It is a moment for rapid field action.

Madhya Pradesh

◆ **The Nature Conservation Society, Amravati**, supported and funded by various organisations including Tiger Link participants, organised simultaneous '**Save Satpura**' jungle yatra starting from Pachmarhi, M.P. and Chikaldhara, Maharashtra, on 26 January. The aims of the **Satpura Bachao Abhiyan** was 1) to undertake study of the protected areas and reserve forests in the light of the wildlife, natural resources, tribals and implications of various welfare schemes; 2) to seek co-ordination between various government agencies and local residents; 3) to build effective rapport between NGOs working in Maharashtra and Madhya Pradesh; 4) to prepare an action plan for maintaining the biodiversity of the Satpura.

The week-long yatra walked through the forests stopping at villages en route exchanging information and opinions. The yatra participants made a considerable contribution to the better understanding between the villagers and Forest Department, especially in those villages awaiting relocation. They were able to communicate details from the

department of the steps being taken towards relocation and the villagers, previously in ignorance of this, were much encouraged.

◆ A workshop and seminar on eco-tourism was organised by INTACH in **Pachmarhi** on 9/10 December 1995. The main purpose of the meeting was a brainstorming exercise to devise initiatives and policies to try to minimise the impact of tourism on Pachmarhi town and the surrounding protected areas—**Satpura N.P., Pachmarhi and Bori Sanctuaries**. As a result of the seminar, it was decided to present an integrated conservation plan for Pachmarhi town to the Government of M.P. and to lobby for notification of the area as an Ecologically Sensitive Zone under the Environment Protection Act, 1986.

Members of *Vanya*, a Tiger Link participatory NGO, drew up a proposal for INTACH to create such a plan and in early May the M.P. Government accepted this in principle. The proposal has modular components that specifically address the problems relating to wilderness areas and wildlife, tourism and trekking, waste disposal and pollution, housing and civic infrastructure, etc. INTACH expects that a specially created Task Force will be commissioned to prepare plans, starting in July 1996.

Shahdol District

◆ Mr S. Deb Roy's note on the Shahdol District in Madhya Pradesh, published in *Cat News*, makes disquieting reading. **Bandhavgarh Tiger Reserve** is in the Shahdol District but the **Status Survey of Tigers** was looking particularly at the areas outside the PAs which themselves held 36 tigers according to the government census figures. However the report reveals that the tiger was '*conspicuous by its absence from most areas except in the immediate vicinity of the PAs*' and also that there was hardly any prey base to sustain a tiger population.

The quality of forest was found to have deteriorated severely and all the areas were under tremendous

biotic pressure. Besides this, heavy poaching seemed to have decimated the wild fauna. Also the poaching of tigers during the last 5 to 6 years has been reported quite widely in the areas around the PAs. A large number of mines, mainly coal, with their network of roads, undermine ecological interests and result in increasing human settlements.

The overall situation concerning the status of the tiger in this large tract appears to be extremely grave. Outside the PAs there were no reports of a tigress cubing in the last one year although a mother tigress and cubs (about one year old) had been reported; this near the National Park.

By interviewing villagers, particularly those who work in the forest areas or graze their livestock there, and forest department field staff, one can form an idea that tiger had been quite common even in the recent past. But now in the whole of this vast tract, evidence of its presence only occurs in a few patches. With each passing year it appears its status is declining; *"the tiger seems to be going out of the area very fast and maybe quite unnoticed"*.

Fishy Pench

◆ It appears that 17 families have been given written permission to fish in the core area of **Pench Tiger Reserve**! It is said that many more have joined the queue for fish. If true, then the security of Pench, the Wildlife Act and much more is at stake.

◆ In March 1996 the forest guards of **Shivpuri**'s captive enclosure for tigers received a shock when they found a wild male tiger in the large enclosure. There had been no official record of tiger around **Shivpuri** or **Madhav National Park** in recent times. This tiger had scaled a 14 ft. fence to enter the captive area probably after sniffing the scent of the captive tigers. Slightly injured, the tiger was tranquillized and has now joined the band of tigers in Shivpuri.

Valmik Thapar who recently visited Madhav states, *"the tragedy of the wild tiger, now completely recovered, is evident and he is totally intimidated by his captive colleagues, keeps to a corner, growls endlessly, eats only in pitch darkness and refused to exit into the larger enclosure. I believe that the animal is in prime condition, 5-6 years old and has suffered the trauma of a 'squeeze' cage when he was treated for injuries. Immediate action is required to either find a new habitat and collar and relocate him or give him the large enclosure in Madhav.*

After roaming extensively around Madhav, I believe it could have a few more tigers. It is indeed a twist of fate that the exquisite tiger got trapped into captivity."

◆ **EPCO**, the Environmental Planning & Coordination Organisation of the Govt. of M.P., held a meeting in December on **Khajuraho and its Environs** where a wide variety of issues were discussed. It was felt that the nearby **Panna Tiger Reserve** should be promoted as an area of exceptional natural beauty. The W.I.I. should be requested to prepare a report about the establishment of an information/interpretation centre in or around Panna and W.I.I.'s expert opinion should also be sought on the possibility of developing Mahaseer fishing on the stretch of Ken River between the Park and the Ken Gharial Sanctuary. NMDC's proposal to treat the effluent from the diamond mines which flows into the Ken River should be shown to EPCO and NMDC should also prepare a status report on the disposal of all the waste which has been piled up at the edge of the Park.

Maharashtra

◆ The **Chikaldhara Pumpstorage Scheme**, a project to be started 4 km from **Melghat Tiger Reserve** has not been cleared by the MOEF's expert committee on River Valley Projects. Setting a precedent for the future, they have asked for the

Steering Committee of Project Tiger to provide an opinion before any progress can be made on the proposal.

◆ **Sanctuary Magazine** has made an application to the Forest Secretary of Maharashtra to reverse the order permitting **antler collection** in the state as a means of plugging a loophole which promotes the killing of deer in M.P. Additional information had come in suggesting that the trade in antlers between M.P. and Maharashtra was taking a serious toll of the herbivores. The application points out that such killing amounts to pushing carnivores towards cattle lifting or even man killing. Besides, the whole objective of wildlife conservation is to improve the ecological conditions in which animals such as the tiger can survive. How is this possible if the prey base is depleted, virtually by official sanction?

Meghalaya

◆ **Balpakram National Park** and **Siju Wildlife Sanctuary**, are threatened by a cement plant and limestone mine that has been proposed by Associated Cement Companies Limited (ACC) in a site that adjoins these two protected areas. WPSI and the Rhino Foundation for Nature in North-East India have produced a **report**, detailing the environmental impact and devastation that the area will sustain.

Balpakram National Park supports 39 species listed in Schedule I of the Wildlife (Protection) Act. There are 8 species of endangered wild cats, including the tiger, and one of the highest concentrations of elephants in India. It is the only place in western Meghalaya with tracts of good forest cover, including excellent tiger habitat and patches of untouched primary forests. Both the mine site and the cement plant fall within the Nokrek Biosphere Reserve. In the interest of the State of Meghalaya and India's wildlife, it is imperative that both the proposed cement plant and mine site are relocated away from this vulnerable bio-diversity 'hotspot' and if ACC goes ahead with its plans, a

national campaign to boycott ACC cement is being considered.

WPSI, Rhino Foundation and representatives of the scientific community held a lively meeting in Calcutta on 26th March with the Executive Vice-Chairman and Managing Director of ACC. Amongst other things ACC proposed a 'compromise' and offered to build a 10 feet high walled corridor through which elephants could migrate 'without disturbance'!

In April 1996, the W.I.I. published a report on the status of elephants and their habitat in the Garo hills of Meghalaya in which, referring to the proposed ACC plant near Balphakram, they recommend that: *"The Siju-Rewak and the Imangiri-Nokrek corridor areas should also be acquired and no mining and construction of the cement factory should be allowed in and around the corridor area."*

For further details or if anyone has additional information, please contact Bittu Sahgal, *Sanctuary Magazine* or WPSI.

Orissa

♦ A.A. Shahed I.P.S., reports that although Project Tiger has done 'yeoman service in restricting largescale devastation', **Simlipal** is under grave danger. He is most disturbed by the continuing killing of elephants for their tusks and tigers for their skin, flesh, bones, etc. in his state of Orissa. He also writes that it is 'our misfortune' that there are still 4 villages in the core area who are exploited by outsiders and he also notes the danger of forest fires that rage for days together every year in summer. Furthermore *"April is the month for ugly 'Akhand-Shikar' an annual ritual in which hundreds of villagers/tribals armed with bows and arrows, muzzle loaders etc. indulge in an orgy of slaughtering animals for fun and food. Deployment of police force/forest staff have not been successful in preventing the same"*. *"Everyone should contribute his/her mite to protect and conserve the bounty of nature."*

Rajasthan

♦ Over 200 villagers, representing 55 of the (65) villages situated around the **Ranthambhore National Park**, met together in December 1995 to discuss the plight of the park and look at possible solutions. At the request of the villagers, the meeting was organised by the Ranthambhore Foundation and it was held at Dastkar Kendra near Kotalpura. The lively discussion at the two day meeting revealed universal acceptance that the present situation of the Park was the worst it had ever been. 99% of the representatives expressed their serious dissatisfaction at the functioning of the Forest Department and held them answerable for the sharp depletion of resources that had occurred. It was therefore their most important suggestion that the Forest Department of Rajasthan, and especially at Ranthambhore, put their house in order as a first step to saving the National Park.

Other recommendations and suggestions made in their '**Ranthambhore Declaration**' included: forming forest protection societies in all the villages on the Park's periphery; introduction of alternative sources of energy; village groups should fence wasteland areas and regenerate fodder plantations and trees; check dams should be made for water and soil conservation; population growth should be checked and the area should attract environmentally friendly industries for employment opportunities; crop insurance schemes should be introduced and a deep trench dug around the park to prevent crop raiding by wild animals; villagers must prohibit livestock from outside the region from entering the Park; check posts and barriers should be created on all major roads leaving the area to restrict the commercial removal of wood from the Park; income generated from tourism in the Park should go to a village fund.

Meetings such as this make it clear that the saving of PAs and tiger habitats is not just an issue of wildlife conservation and goes a long way in putting paid to the argument that it is

'people v. wildlife'.

Such a gathering of the community has never before assembled in the interest of a Park. If more areas go this Ranthambhore way, perhaps even the politicians will sit up and take note!

♦ To explore the possibilities and effectiveness of **Joint Protected Area Management**, the Society for the Protection of Wasteland Development and the Indian Institute of Public Administration have taken up three case studies: Rajaji National Park in U.P., Dalma Sanctuary in Bihar and **Kailadevi Sanctuary** in Rajasthan. The following 'tentative observations' are from a preliminary field study (17 pages) in Kailadevi including discussion with four villages, in and outside the sanctuary: *"Tiger—most villagers reported this as absent, one or two said it is still seen. Leopard—reported as occasional by villagers. Pastoralism is the mainstay of their economy with the forests acting as the main source of sustenance for their livestock. ... in the past, a single family could own over 200 livestock. However, at present with a gradual decrease in forest resources...there has been a sharp decline in livestock holdings. On an average the number varied between 4–15 per family. Some income is generated by the sale of fuelwood and fodder but this is very rare as there is mostly a shortage even for local consumption. The most paramount ... problem in this region is the acute shortage of water. The Society for Sustainable Development has been looking into the possibilities of helping the villagers...under the state government's as well as CAPART's schemes for watershed management. The slow process of denudation and the social depredation that ensued has made the people a lot more conscious and aware of the significance of conservation and the quality of life that good jungles ensure. There seemed to exist 'Bhai-Bandi' or 'bonds of brotherhood' between the wildlife and these people. In 1990, about 3 years*

prior to the implementation of the Van Suraksha Samiti, the local people ... came together ... to take measures to regenerate their forest cover. The Forest Department (FD) in 1993 formalised the local body into a number of VSSs. At present there are about 63 operating in Kailadevi. They have been able to regenerate large tracts of forests over the past few years. FD for them (the villagers) seems only to be an embodiment of rules, regulation, concession, restriction, etc. ... their confidence in the FD stands on shaky grounds. Even though there is no overt hostility prevalent, the grudging obedience and festering disillusionment is glaring.

Several points are listed with reference to the potential for adopting a JPAM policy. 1. The problems of conservation cannot be studied in isolation to the other existing problems, especially that of water scarcity. 2. the flexibility of the VSS can be used to restructure it in accordance with the objectives of a joint management scheme. 3. The extent to which the VSS could function with the Panchayat should be explored... to make possible a greater degree of decentralisation in decision making and planning. 4. Since the villagers are successfully protecting the forests, the money allotted for this task by Project Tiger or the FD should instead be used for the benefit of the people 5. Certain viable and sustainable economic activities have to be thought of... 6. Population control and education must form an integral part of any recommended policy for the local communities.

(From a report by Priya D. Das. 30/4/96)

♦ Former Chief Wildlife Warden and P.C.C.F. of Rajasthan, Mr V.D. Sharma I.F.S.(ret.) after a visit to **Ranthambhore National Park** in December 1995, was so shocked by what he saw of the disastrous conditions there that he was moved to express himself to the present Chief Wildlife Warden. He described seeing cattle camps built in the core area 'in full knowledge of the field

staff', seeing the obvious signs of uncontrolled grazing and even the cutting of trees. He said that the eco-development initiatives that had been taken outside the park leading to the production of fodder grasses to reduce grazing pressure inside the reserve, had been lost. Due, it was said, to all waiting for the new big Eco-development Project (GEF/IDA)! He notes that little progress had been made in the case of the seized leopard skins which was passed to the Field Director for further investigations. He urges corrective administrative measures and suggests also that a meeting of the state wildlife board be called.

♦ In January 1996 the **High Court Committee** undertook a **site visit to Ranthambhore** and in their report also underlined the serious crisis that was affecting the park. "While the problem of poaching remained unresolved, the problem of serious habitat degradation and fragmentation continued to take its toll." Their field visit revealed signs of human and livestock intrusion into the core area, to such an extent that in crucial tiger breeding areas, some tracks were so full of hoof and foot marks that it was as if on an approach to a village! Grass cutters and buffaloes were seen, as also a herd of camels and signs of wood-cutting. Such violations of the National Park had been brought to the notice of both central and state governments since 1992 with little or no remedial action being taken to improve the situation.

♦ For the last three months Tiger Link participant and former Field Director of **Ranthambhore**, Fateh Singh Rathore has been pursuing an action plan to rehabilitate the **nomadic poachers** of the area and to provide them alternative livelihoods that take them away from the damage of poaching. Fateh Singh Rathore has held a series of meetings in the region around Ranthambhore with different leaders of these nomadic groups and we await the results of this exchange.

TamilNadu

♦ The **Indira Gandhi Wildlife Sanctuary (IGWS)** in the **Anamalais** has been proposed for inclusion under **Project Tiger**. As a result the Wildlife Warden of the Sanctuary, Mr N. Krishna Kumar, has produced an 'approach paper' on tiger conservation in the area: "there are 17 tigers as per the 1995-96 census in the IGWS and National Park, carried out during May 1995". He says that "many visitors to Topslip, Grasshills, Valparai, Manambolly, Chinnar, Amaravathy, etc." report tigers with cubs but that none were recorded during the census. He reports that the IGWS is an unfragmented tiger tract offering the best habitat in south India for the predator to proliferate and exist without any threat. It "is a significant region in the Western Ghats and harbours a wide variety of flora and fauna". He also says that there is "no account of tiger/man conflict or cattle kill reports". There is "no report of tiger poaching in the recent past". Other poaching "has been controlled to a great extent". He fully supports the idea that the area should come under Project Tiger and feels "it is essential to concentrate on the tiger as the flagship species in the sanctuary for the benefit of all the other species involved in the ecological food web".

On a recent visit to the area Valmik Thapar found fresh pug marks of tiger and was surrounded all night by a large herd of gaur around his log cabin. With Ajith Kumar of SACON, lion-tailed macaques were observed and the beauty of this area seen. V.T. states, "the area deserves to be a P.T. Reserve".

♦ The **Tamil Nadu Green Movement (TNGM)** is working on a public interest intervention on a subjudice matter in the Madras High Court relating to the disputes between the Bombay-Burmah Trading Corporation and the Government of Tamil Nadu (Forest). This is a complicated case involving encroachments and use of fuel wood

and concerns an area in the heart of the **Kalakad-Mundanthurai Tiger Reserve**. They are also doing research on the legal problems surrounding 76 sq. km of Kanyakumari Division, an area of excellent forest which is proposed for addition to the tiger reserve. The TNGM has also been very active concerning the degradation being faced by the regions adjoining Masinagudi in the proximity of the **Mudumalai Wildlife Sanctuary** due to the Pykara Ultimate Hydro Electric Project (PUSHEP). While they are already working on these issues the TNGM are in need of a small grant to pursue the cases to cover travel, communication, photocopying, documentation, etc. Contact: A. Rangarajan, TNGM, c/o P.O.Box 95, Ootacamund 643 001.

♦ Dr Johnsingh writes that his time in **Kalakadu-Mundanthurai** left room for some optimism, though he reports that poaching remains a problem and that this and other conservation actions need to be tackled by coordination between the Forest Departments of Tamil Nadu and Kerala.

Valmik Thapar, during his visit to **Perambikulam** and **Topslip**, also marked the need for a Tamil Nadu/Kerala coordinated approach to the management of the very fragile **Western Ghats**.

♦ In May, the Indian National Trust for Art & Cultural Heritage (INTACH) organised a two day **workshop in Ooty on 'Fragile Ecological Areas'**. Environmentalists from all over the country deliberated on identifying fragile ecosystems and on ways to stop the continuing illegal or legal destruction occurring in the name of development. Organisations and forums like the Tamil Nadu Green Movement, Save the Nilgiris Campaign, INTACH-Ooty, the Bombay Environment Action Group, the Ranthambhore Foundation and others came together on a common stand to protect the Nilgiris against the abuse it is facing from unplanned and haphazard development,

uncontrolled tourism, big dam projects, mining, etc. A **declaration** was passed to **save the Nilgiris** which form the watershed for many rivers in south India and also provide an important habitat there for the tiger. It is hoped that a legal team will examine the details of abuse with a view to finding relief through the judicial process.

Uttar Pradesh Serious Threat to Tigers in Corbett National Park

♦ In March the **Corbett Foundation** wrote to the Chief Conservator of Forests (Wildlife) in Lucknow to apprise him of their concern regarding poaching of tigers in and around Corbett Tiger Reserve. *"We are especially concerned because of tiger carcasses found in and around the buffer area during the last three months. In the course of our social projects in villages located around the Corbett Tiger Reserve, we have been receiving persistent and reliable information regarding poachers operating in organised syndicates making inroads into areas surrounding the Corbett National Park.*

Our representatives have personally examined and investigated three carcasses of healthy tigers and our opinion is that in every case death was due to poisoning. These were at Kaladhungi, Locharchaur and Sanklaphanta during January, February and March 1996. All our efforts to obtain results of the forensic investigations have proved futile. These casualties of tigers need to be thoroughly investigated and in every case death due to poisoning be ruled out before a verdict of death due to any other cause is reached. We are aware and confident that the tiger population inside the NP is protected by the authorities but our concern is for tigers in the surrounding buffer areas outside the park. The alarming fact is that no information is available as to the population nor location of tigers outside the park, though these

areas are within the Corbett Tiger Reserve and in Reserve Forest. We feel that unless and until this information is available it will not be possible to protect the tigers in this 'buffer' area and as soon as these are lost to poachers, the tigers inside the park will be the inevitable target."

The Foundation offers assistance to the department in the form of four jeeps each with driver and wildlife guide to help in anti-poaching patrolling during the summer monsoon months and in gathering the necessary information on tigers from the park's surrounding forests.

♦ **The Corbett Foundation** have published a **Guide for the Corbett Tiger Reserve** which includes a bird checklist, list of animals seen in the park, a map, information about places to stay in and outside the park, a biography of Jim Corbett and information about the Foundation's work since it was founded in April 1994.

Their work includes:

- providing first aid boxes of non-prescription and preventive medicines to 50 villages situated on the periphery of the Corbett Tiger Reserve. A medical team visits each village every month.
- awareness about conservation and the environment is included in all the programmes, but in addition 50-60 villagers are taken every week to visit the park and to exchange ideas and information with the Reserve staff.
- on the suggestion of village women, the Foundation has opened several 'sewing centres' provided with sewing machines and instructors. These centres also serve as meeting points for health education amongst the women.
- providing financial relief and advice on obtaining government compensation in cases of injury or death caused to humans and livestock by wild animals.
- provides an **annual award of Rs 10,000** to a forester contributing the most to the preservation of the tiger and its prey species. The first one was presented to **Forest Guard Sati** (see page 3).

• encouraging other programmes suggested by villagers; eg. assisting in re-activating a sick solar energy plant.

The Foundation states that their basic aim is: *"to build bridges of understanding between the villagers and the foresters in relation to the conservation of flora and fauna of the area."*

♦ **A Western Terai Conservation Initiative** has been launched to save the forests of the erstwhile Haldwani Forest Division (HFD) which has been a legendary area for wildlife and is *"on a par with our best National Parks in terms of habitat, fauna and flora"*. In the relatively undisturbed areas of the interior, the tiger population is expected to be comparable to that in the Corbett reserve. Also it is estimated that there may be around 300 elephants using the area between the HFD and the sanctuary across the Sharada river in Nepal. But the region is getting fragmented and neglected and there is a *"compelling need to declare it a protected area now"*. The WTC Initiative aims to resolve some of the problems in the area which are reported as including: timbering by the Van Nigam which creates disturbance and allows for poaching; and the presence of villagers who regularly raid the forests with firearms and herds of hunting dogs to poach game meat, sal, khair and teak wood and also occasionally for tigers and elephant tusks.

The Initiative's other main aim is to protect four important corridors between Haldwani and the Corbett tiger reserve: (i) Haldwani/Kaladhungi presently too steep, too exposed and crossed by the busy Haldwani-Nainital road; (ii) Kaladhungi, good tiger and elephant habitat, under siege from the proposed Sterling Resorts development (and Camp Corbett); (iii) Kosi Ramnagar/Corbett which used to be wonderful tiger/elephant habitat but has been steadily destroyed by agriculture and a new rash of 'Corbett' resorts and (iv) Kilbury, Kunjkhark, Garjia which may be destroyed by a proposed

PWD road.

All those wishing to know more or willing to help and support the initiative should contact:

Dr Vikram Soni, A 10/4 Vasant Vihar, New Delhi 110 057. Tel: 672979, 6880053 Fax: 3019457 or Dr Ajay Rawat, Administrative Training Institute, Nainital 263 002, U.P. Tel: (06942) 36266.

♦ A social movement has been launched by the youth of India *"to help save the forest, wildlife, environment and natural heritage, in all forms, from destruction. It is a cry of feelings against those who have already destroyed the natural resources on earth beyond repairable extent in search of dollars and in the name of false development."* The **Save Tiger Youth Association (SATYA)** explains why their andolan to save nature has chosen to use the tiger in their name: *"It is the habitat of the tiger that keeps alive the natural rhythm for human kind. These habitats are vital water catchment areas; they re-charge the underground water table, increase productivity of land, prevent soil-erosion and reduce air pollution."*

The movement is being taken up around the **Dudhwa National Park**, Palia District, and hopefully in the Bahraich, Pilibhit and Nainital Districts also. SATYA has produced a small **booklet** outlining their philosophy and activities. All those who would like to join or know more, please contact: Mrs Asar Fatima (President), c/o Kabir Ahmad, S.D.O. Forests, Pilibhit, U.P. Tel: 42302 or Mr Rakesh Jain (Vice-President), 56 Wazir Hasan Road, Lucknow. Tel 272860.

♦ From his visit to **Rajaji National Park** Dr A.J.T. Johnsingh reports that the 15–20 sq. km Dholkhand area, which has for 15–20 years enjoyed special protection from grazing and lopping, is now overrun by Gujjars and their buffaloes. As a result the future of 8–12 tigers, the only population in the approximately 1,000 sq. km habitat on the west bank

of the Ganges, is in jeopardy. Preliminary studies indicate that at least six tigers of this small population use Dholkhand on and off. He urges that Dholkhand should again be saved from grazing, lopping and poaching and that several more such 'minicore' areas be created in the park.

Dr Johnsingh concludes that *"we lose at least one tiger and hundreds of prey species every day to poachers. Each day a portion of tiger habitat gets nibbled away either for agriculture or for some development activity. Imperceptible habitat degradation has been in progress in most tiger habitats. Therefore there is a great need to implement recommendations such as the above before the conservation situation becomes totally irreversible."*

♦ The **W.I.I.**, Dehra Dun is planning a long term project on **Building Partnerships for Biodiversity Conservation in Rajaji National Park**. The objectives are: capacity enhancement of Park management for conservation with people's involvement, capacity enhancement of local communities so as to minimise Park/people conflict and to facilitate co-ordination amongst major stakeholders to resolve conflicts. The strategies adopted to achieve this will include Park management training, local community level training, local enterprise development, documentation, research and monitoring. For further details contact:

B.M.S. Rathore, W.I.I., P.O. Box 18, Dehra Dun 248 001.

(Source: JPAM Update No. 9, May 1996)

♦ In February the **Rural Litigation & Environment Kendra**, Dehra Dun released an initial summary of a proposed plan for the Gujjars of **Rajaji National Park**. There are 7 major objectives which include protecting the ecosystem of the Shivaliks, conserving biodiversity and supporting endangered species, protecting the *"needs and lifestyles of the Van-Gujjars such that they can permanently live in the proposed park in a sustainable*

manner”.

Further information from:
Avdash Kaushal, 8 Chandralok, Rajpur
Road, Dehra Dun.

(Source: JPAM Update No. 9, May 1996)

♦ The Wildlife Institute of India is embarking on a five year project in **Rajaji-Corbett National Parks** to determine the impact and extent of biotic pressures on the vegetation and the density, population structure, habitat use, ranging and health conditions of large herbivores. Radio telemetry of large herbivores will be used to gather information on ranging and habitat use.

The aim is to identify and recommend several mini core areas in the disturbed regions of these parks where large inviolate core areas are not feasible. A series of such undisturbed areas would immensely strengthen the conservation of tiger and other species that avoid areas of high human disturbance.

West Bengal

♦ There is disturbing news that the West Bengal Government is willing to permit **dolomite mining in Buxa Tiger Reserve (BTR)**. Local MLAs were making such promises in their election speeches. It appears that dolomite mining has started once again in the core area of BTR, in the Jayanti and Santhrabari ranges in spite of being stopped a few years ago by a court ruling.

Furthermore, an irrigation channel, 120 m wide, cutting right through and dividing Buxa Tiger Reserve, Jaldapara Wildlife Sanctuary and Gorumara National Park is being proposed under an **Indo-Bhutan dam and hydroelectric project**. Hardly activities compatible with the ideals of a Tiger Reserve! And particularly surprising in view of the fact that the IDA/GEF sponsored Eco-development Project is about to start in the BTR! Park managers and the people are naturally confused by such conflicting scenarios.

In view of the severe implications for the wildlife management of these protected areas, it has been suggested to the Director of Project Tiger that the matter should be put before the Project Tiger Steering Committee/ Tiger Crisis Cell before any final decision is taken.

FIELD SUPPORT

Care for the Wild, a British charity, has recently focused on tiger conservation in India and has already donated 16 motorcycles for the Foresters and Deputy Rangers in the protected area of **Satpura National Park, Bori Sanctuary and Pachmarhi Sanctuary**, Madhya Pradesh to be used as part of their anti-poaching patrol. Two Eicher trucks have also been donated by them for patrolling the fringes of these three protected areas, and early reports indicate their effectiveness in containing illegal poaching of wood and animals.

The **Cat Specialist Group, World Conservation Union (IUCN)** has donated a Maruti Gypsy for anti-poaching patrol in **Bori Sanctuary** and are donating a speed boat for patrolling on the **Tawa reservoir** which borders the Satpura National Park and Bori Sanctuary.

The **Cat Specialist Group and Ranthambhore Foundation** are supporting the Wildlife Institute of India's **Tiger Ecology Project** by providing a Maruti Gypsy. This will be essential for the monitoring of the radio-collared tigers as they range over a wide area.

The British-based wildlife trust, **Global Tiger Patrol** has joined forces with **Kellogg's U.K.** to help in conservation and protection of the tiger in India. They have donated an anti-poaching jeep for **Panna National Park** in Madhya Pradesh and a Fibroplast high speed patrol boat for **Corbett Tiger Reserve in U.P.** The water craft will patrol the 40–50 sq. km of water at Corbett and act as a deterrent for would-be poachers.

♦ In the last six months the NGO sector has actively supported field action by a series of donations. All the donations made by different organisations have set historical precedents by the NGO sector in providing infrastructural help directly to Chief Wildlife Wardens and in being able to do this rapidly. Never before have such donations been made in the cause of the tiger. Monitoring and evaluation of these vehicles has also shown a sharp rise in the detection of offences both in the poaching of wood and of animals. Recently in Panna, the GTP-donated anti-poaching gypsy arrived in the nick of time to save a leopard that had been caught in a snare set by trappers. For the forest guards the back up of these vehicles and motorcycles has been a source of great encouragement and motivation.

Many more donations are planned for 1996 in vital tiger habitats of Madhya Pradesh, Assam and Karnataka. We hope that these tiger links between Chief Wildlife Wardens, park managers and donors will help to minimise the growing crisis of the tiger and its habitat.

If there are any vital needs that participants feel are required in tiger habitats to support forest staff, please write with details to Valmiki Thapar, Tiger Link, 19 Kautilya Marg, New Delhi 110 021.

Central Government Funding on Wildlife

Rs 3,736.27 lakhs (approx. US\$ 11 million) was spent on wildlife during the financial year ending 1995–96. This represents approximately 93% of the total amount allocated. 11% of the amount spent, or Rs 413.7 lakhs, was incurred during March 1996. This money, released in the last month of the financial year, made it nearly impossible for it to reach field sites through the State Govts. 27% was spent on development of National Parks and Sanctuaries, 22.5% on Project Tiger, 12.5% on eco-development around PAs and between 8–10% each on Project Elephant, the Wildlife Institute of India and the Central Zoo Authority.

♦ The **Cat Specialist Group (CSG) (Indian Region)** met in December 1995 and again in February when the CSG chairman, Peter Jackson, was in Delhi. Ongoing research and surveys by CSG members were reviewed and various cat conservation aspects discussed. Members were particularly concerned about the growing pressure to allow human use even within the National Parks and core areas representing less than 1% of the country. They noted the importance of preserving some areas of high biological importance and ecological value in natural (or as natural as may be possible) condition for future evolutionary interests.

State Funding for Wildlife

♦ The percentage of budget that the States allocate for forests and wildlife (FWL) from the state plan outlay perhaps gives some indication of the importance—or lack thereof—given by them to the natural environment. During the **VIIth plan, 1987–92**, the average state expenditure for FWL was 3.04% of the total outlay. The range was from 0.88% in Bihar to 7.5% in Arunachal Pradesh and 11.13% in Himachal Pradesh. 60% of the states allocated under 3% of the budget and only 16% of the states, over 5%. The **VIIIth plan, 1992–1997**, shows a drop of 0.42% in the mean amount to 2.62%. Andhra Pradesh now gives the lowest, 0.65% and, the highest, H.P., now allocates only 8.93%; Arunachal Pradesh had reduced its FWL share to 4.98%. In the VIIIth plan, the number allocating less than 3% of their budget had increased to 76% of the states and those allocating more than 5% had dropped to 8%. 64% of the states reduced the percentage amount allocated for forests and wildlife—does this reflect their view of its relative importance? What will the IXth plan reveal?

Planning Commission

♦ In the deliberations of the **Working Group on Wildlife for the IXth Five Year Plan** constituted by the Planning Commission most

members agreed that the financial support for the wildlife sector was inadequate. Dividing into sub-groups concerning research; development and training needs; protection of critical ecosystems and species, including control of poaching and wildlife trade; people and participation; legislative measures, etc., the working group recommended almost Rs 2,500 crores for the wildlife sector in the ninth plan. This includes Rs 200 crores for the control of poaching and illegal trade in wildlife and Rs 100 crores for welfare and incentive schemes for forest guards. Rs 550 crores are also allocated to the development of National Parks and Sanctuaries and an equally large sum for eco-development. Wildlife research budgets have also been increased to around Rs 60 crores.

The following are a few of the many specific recommendations made by the group: 1. Establishment of legal support cells in offices of the Chief Wildlife Wardens; 2. Creation of secret service funds for information regarding poaching and illegal trade of wildlife products; 3. Acquisition of wildlife stocks lying with traders. 4. Enlisting help of paramilitary forces to deal with militancy in the States; 5. Closing down or relocating of damaging development projects like the Suheli Barrage in Dudhwa N.P., the army ammunition dump and Chilla canal at Rajaji, mining in Kudremukh N.P.

The question is whether the Planning Commission will listen to the call of the wilds!

Project Tiger Appraisal

♦ In 1994 the Minister of Environment & Forests set up the **J.J. Dutta Committee** to appraise Project Tiger (PT). The report has now come out and, while recognizing the limitations of the committee approach and recommending a more total evaluation by the W.I.I., it nevertheless presents some assessment and analysis of the successes and failures of Project Tiger. The report makes comments and recommendations on many aspects of the Project including on

the inadequate form of the PT headquarters in Delhi, urgently in need of a revamp, on the management of the reserves themselves, on the lack of financial support and tardy allotting of funds, on the presence of villages within the reserves (*"the tiger does not need an area totally devoid of humans for its survival"*) and on the poor pay and working conditions of the lower staff. In spite of the criticisms and suggestions put forward the report concludes, *"that PT has been a success is without doubt"* though *"it now needs to be expanded... to meet the emerging threats and challenges."*

The following are a small selection of the comments and proposals on other aspects:

"The tiger census figures do not represent the true numbers".

"Paul Leyhausen once said that the population increase in larger cats in nature was only about 2% per annum". [Compare the latest official census figures as given in WWF's *Tiger Call*. Of the 12 Tiger Reserves showing an increase in tiger numbers 1993–95, all but one show an increase above 2% per annum (i.e. 4.04% over two years) with Nagarjunasagar (AP) showing a 142% increase over the period, Periyar (Kerala) 30%, Manas (Assam) 16% and Bandhavgarh (MP) over 12%].

"It is necessary to develop indices of tiger numbers, rather than try to find actual numbers."

"The PT staff need to be invested with adequate authority and indemnity to discharge their protective functions."

"The tiger habitats outside the reserves have shrunk not only in area, but also qualitatively."

Noting the effect of political and economic factors the report states, *"if the Project has performed short of expectations the reasons to look for are probably as many outside, if not more, as within the Project"*.

The report comments on the need for management plans with clear prescriptions based on ground truths, for improved fire protection and vegetation management, for control of grazing, for alternatives to be provided to compensate loss of livelihoods due to stoppage of NTFP

collection and an increased pace of ecodevelopment. On research and monitoring it states, "a proper mechanism or atmosphere for research was never developed".

"The research component—its importance hardly needs emphasis—has to be totally remodelled" and suggests that the research posts under PT should be withdrawn from the States and placed with the W.I.I.

"Legal support to Field Directors... is lacking."

"The PT areas do not have sufficiently dynamic and outreaching programmes of awareness generation among local people."

This needs to be undertaken especially in order to facilitate the flow of intelligence regarding tiger poaching, etc. to the management.

Ecocodevelopment Update

♦ The original eight sites identified to be recipients of the World Bank's IDA/GEF funds have now been reduced to seven. **Simlipal Tiger Reserve** in Orissa has been excluded by the Bank because "the plan for relocation of people living in the reserve would not conform to the project strategy for people in PAs".

Meanwhile kilos more paperwork is being sent to NGOs and individuals concerning the project which is expected to start in October 1996. Tenders are being given out to attract NGOs to participate. It appears that all the plans are running late.

In one of the sites—Ranthambhore—the Field Director has released an advertisement in the newspaper and the content is also being widely distributed as a leaflet. The notice (in Hindi) is somewhat ambiguous in what it purports to announce but lists the following programmes that will be done within the 97 target villages:

1. For protecting the farmers' crop from the wild animals (a) stone wall/preparation of barbed wire fence; (b) payment for crop keeper/watchman to protect the crop
2. Tree plantation for fodder and fuel

3. Construction of check dam
4. Construction of small ponds
5. Soil and water conservation programmes in farmers' fields.
6. To produce and provide saplings for plantation.
7. Construction of biogas plants and smokeless chulahs in order to save wood; erection of chulahs and distribution of solar cookers.
8. Training in carpentry, tailoring, handicrafts etc. and to supply necessary tools.
9. Breed improvement of the livestock.
10. To give additional/extra incentives for family planning.
11. Compensation to those villagers whose cattle have been killed by wild animals.
12. Compensation for man/woman killed by the wild animals.

In addition to the above, the local people will get employment opportunities in various developmental activities being undertaken within the Park under other schemes. If the biomass and wildlife of the National Park remain well protected, the number of tourists coming to Sawai Madhopur

will be much more and as result the opportunity for employment and income for the local people will increase.

Every year 25–30 thousand tourists visit Ranthambhore National Park; out of which 15–20 thousand are foreign tourists.

From where does the tourism issue arise? After nearly three years of endless workshops, meetings, seminars, consultancy trips and paperwork, we have reached this point of no return in at least one GEF ecocodevelopment site. How many people actually understand the project? Do the NGOs and Park Managers know what is happening? Several hundreds of thousands of dollars have already been spent since its inception. Is the Ranthambhore example the result of this three year phase?

♦ In an ecocodevelopment workshop held on 1 June '96 at the World Bank, several Tiger Link participants expressed strong views and concerns at the prevailing state of the projects. It is hoped that the flaws in the plan will be rectified.

STOP PRESS

The new AGP Government in **Assam** has announced a **total ban on the felling of trees** in the State in a bid to save its forests from environmental degradation.

A **vigilance cell** under the CCF has also been set up to check illegal activities.

Kaziranga National Park and other PAs will be allowed to use the **money earned** from tourism for emergency maintenance works in the park.

The Department is also trying to **extend the Kaziranga National Park boundary** by 400 sq. km before July 1st.

A **committee** has been formed to look into the situation in **Manas Tiger Reserve**.

A **Wildlife Welfare Trust** is being set up to help ground level staff working in interior areas of the PAs and forest reserves. The Minister will donate one month's salary, DFOs and above will donate seven days' salary, Rangers will give three days' salary and all other staff, one day's.

(Source: The Pioneer, Sat. 1 June 1996)

Congratulations! Let us hope more of the country will show similar political will to protect the environment.

New International NGOs

▫ Michael and Joseph Keegan of **Operation Eye of the Tiger U.S.A.** are planning to start a counterpart organisation in India and are exploring the possibilities for working in the area around the Corbett National Park. They are also approaching Mother Theresa for her support.

▫ **Tiger-Direct** is a new organisation being launched by students and local people in the U.K. to raise funds for tiger conservation. They are keen that the money raised should go directly to where it is needed—“no middle people, no tee-shirts, no adoption plans”. They would like to hear from NGOs and individuals in India about their problems and the funding requirements for maintaining effective tiger conservation.

Contact: Alex Oliver, 37 Burnaby Court, Sheffield, Yorkshire S6 2QY, England.

▫ **Tiger Watch Canada** is a new tiger conservation NGO based in Toronto whose planned activities include: a market survey to assess the tiger trade in Canada, lobbying the Canadian government to improve enforcement of the wildlife trade laws, financially assisting tiger conservation programmes in the field, creating local awareness by disseminating information and networking.

Lawrence Pinsky, Tiger Watch Canada, 1543 Bayview Ave., Suite 304, Toronto, Ontario, Canada, M4G 3B5. Tel: 416-487-6125 Fax: 416-487-9785

Email: tigerwatch@goodmedia.com

▫ **The International Year of the Tiger Foundation** is another Canadian NGO. They have proposed that 1998 should be declared *The International Year of the Tiger* and be the inaugural year of ‘The International Decade of the Wild Animal Kingdom’. They are canvassing support for this idea and would like to hear views from Tiger Link participants.

Cecile Davidson, The International Year of the Tiger Foundation, Box 5203, Stn. B, Victoria, B.C. V8R 6N4, Canada

Save the Tiger Fund (STF) is a joint project of the Exxon Corporation and National Fish and Wildlife Foundation. “*STF funds projects that address tiger conservation needs including: habitat protection, applied field research, education, and improved conservation breeding capabilities*”. Inquiries and further information on funding guidelines should be addressed to: STF, National Fish & Wildlife Foundation, 1120 Connecticut Avenue, NW Suite 900, Washington DC 20036. Tel: 202-857-0166 (FAX: 0162) Email: Tiger@NFWF.org

The UNDP Global Environment Facility has set up a **Small Grants Programme** in India meant to assist NGOs, community based organisations and research institutions engaged in small scale innovative environment development activities.

Development Alternatives is responsible for implementing the programme in India. An information brochure with details is available from the National Coordinator, UNDP/GEF SGP-India, Development Alternatives, B-32 Tara Crescent, Qutab Institutional Area, New Delhi 110 016. Tel: 665370/657938/6856123. Fax: 6866031. Email: tara@saldt.ernet.in

Global Tiger Forum

◆ In December 1995 Shri Rajesh Pilot, the new Minister of Environment & Forests initiated ‘dinner diplomacy’ and held an evening meeting of the High Commissioners and Ambassadors of all the tiger range countries in order to try to encourage the immediate ratification of the **Global Tiger Forum (GTF)** since there are only three members and a minimum of five is required for the GTF to function. Till today the magic figure of five has yet to be reached.

Thailand Workshop

◆ Tiger Link participants were among 44 representatives from 11 tiger range countries invited to the **Second International Conference and Workshop to Assess the Status of Tigers** which was held in Thailand in January 1996. Recommendations were made on several aspects:

- Assessing the population structure of tigers across the entire range;
- Poaching and illegal trade;
- Education and public awareness;
- Human dimensions of tiger conservation: the needs of local people; and
- The Global Tiger Forum.

A plan was devised to map the population structure of tigers across their entire range and it was recommended that the **GIS workshop** that followed the conference should be the first in a series to develop a standard methodology for mapping tiger populations.

The conference recommended the holding of a **workshop on field techniques** in Royal Chitawan National Park, Nepal, for the training of field researchers from all tiger range countries. This is presently planned for November 1996.

Call for Action

◆ **EIA, the Environmental Investigation Agency** has launched a *Call for Action* for the **Conservation of Forests**. They are looking for signatures in support of this appeal to all Governments to urgently protect forests and their wildlife by:

1. Building a consensus for a global legally-binding agreement to assist in the conservation of forests;
2. Ensuring that the logging activities of transnational corporations are regulated under this agreement;
3. Ensuring that all forest management practices are environmentally sensitive and sustainable, socially beneficial and economically viable and that protection of wildlife is safeguarded;
4. Promoting the use of timber products derived from

environmentally sustainable sources only;

5. Encouraging national legislation and regional initiatives to counter unsustainable levels of timber and paper consumption and ensuring that the major consuming states (eg. USA, EU member states, Japan) take immediate steps to reduce the unnecessary wastage of forest resources.

Contact: EIA, 15 Bowling Green Lane, London EC1R 0BD, UK.

◆ Members of the EIA recently spent six weeks in India meeting conservationists and officials to discuss tiger conservation, the wildlife trade, ecodevelopment, governmental attitudes and priorities for action to help tigers in India. They also carried out undercover investigations resulting in new information.

A major new document has been produced on the tiger and EIA will launch its campaign to save the tiger soon.

In June 1996 **National Tiger Week** will be celebrated across most major zoos in the United Kingdom with a view to raising financial resources to save the tiger in the wild.

Bangladesh

◆ In a letter received in November 1995 Dr Shamsur Rahman, Chief Conservator of Forests in Bangladesh writes "...*Bangladesh is enthusiastic in the activities of Tiger Link...*"

China

◆ China is asking for international help to try to save the **South China tiger**, *Panthera tigris amoyensis*, from extinction, the official Xinhua news agency reported in January 1996. The **National Environmental Protection Agency** is seeking foreign cooperation to learn new breeding techniques, such as artificial insemination and embryo transfer, to save an animal that once populated

large areas of southern China but whose numbers are now down to 69, with 49 living in Chinese zoos and **fewer than 20 in the wild**, according to Shanghai Zoo officials. Sperm extracted from the 11 Shanghai Zoo tigers was found to be inactive indicating species degeneration. To curb inbreeding in zoos, Chinese scientists would step up the search for South China tigers living in the wild to provide more mates, conservation officials said.

◆ Bengal tigers, *Panthera tigris tigris*, have come into increasing **conflict with local people** in northern Motou in **south-eastern Tibet**, reports Ming Jiang Qui of the Kunming Institute of Zoology, Chinese Academy of Sciences. He writes that in the last 3 years the situation has become desperate for both the tigers and the Tibetans who moved to these southern Himalayan slopes in the 1950s. The loss of lowland forest to agriculture and unregulated hunting have forced the tigers from the main Yarlung Tsangpo valley to the tributaries in search of prey and, due to the lack of wild species, the Tibetan villages are suffering heavy losses of livestock. The lack of a natural food source also drives tigers long distances in search of prey. Ming reports tracking one tiger from a kill site at 2100 m, across the 4570 m Chimdro pass and down on to the northern slopes of the Himalaya where no tigers had been reported previously. Within a few days the tiger recrossed the pass and returned to its normal range. 10–15 years ago tigers were considered common in the lowland areas and up to 1500 m at the mouth of the Chimdro Tsangpo. Today the tracks and livestock kills are mostly found between 1900 and 3500 m in the upper Chimdro Tsangpo, where 10 years ago no tigers were found; the pattern of the kills suggest that the tigers are migrants. In the past 6 years, 5 tigers have been killed in this and adjacent valleys. To reduce the tiger-human conflicts, the Forestry Department of the Tibetan Autonomous Region is considering

resettling some villages outside the tigers' range.

(Source: *Oryx* 30(1) January 1996)

Myanmar

◆ In mid March 1996 Dr A.J.T. Johnsingh visited Arakan *Yoma* in Myanmar. He reports:

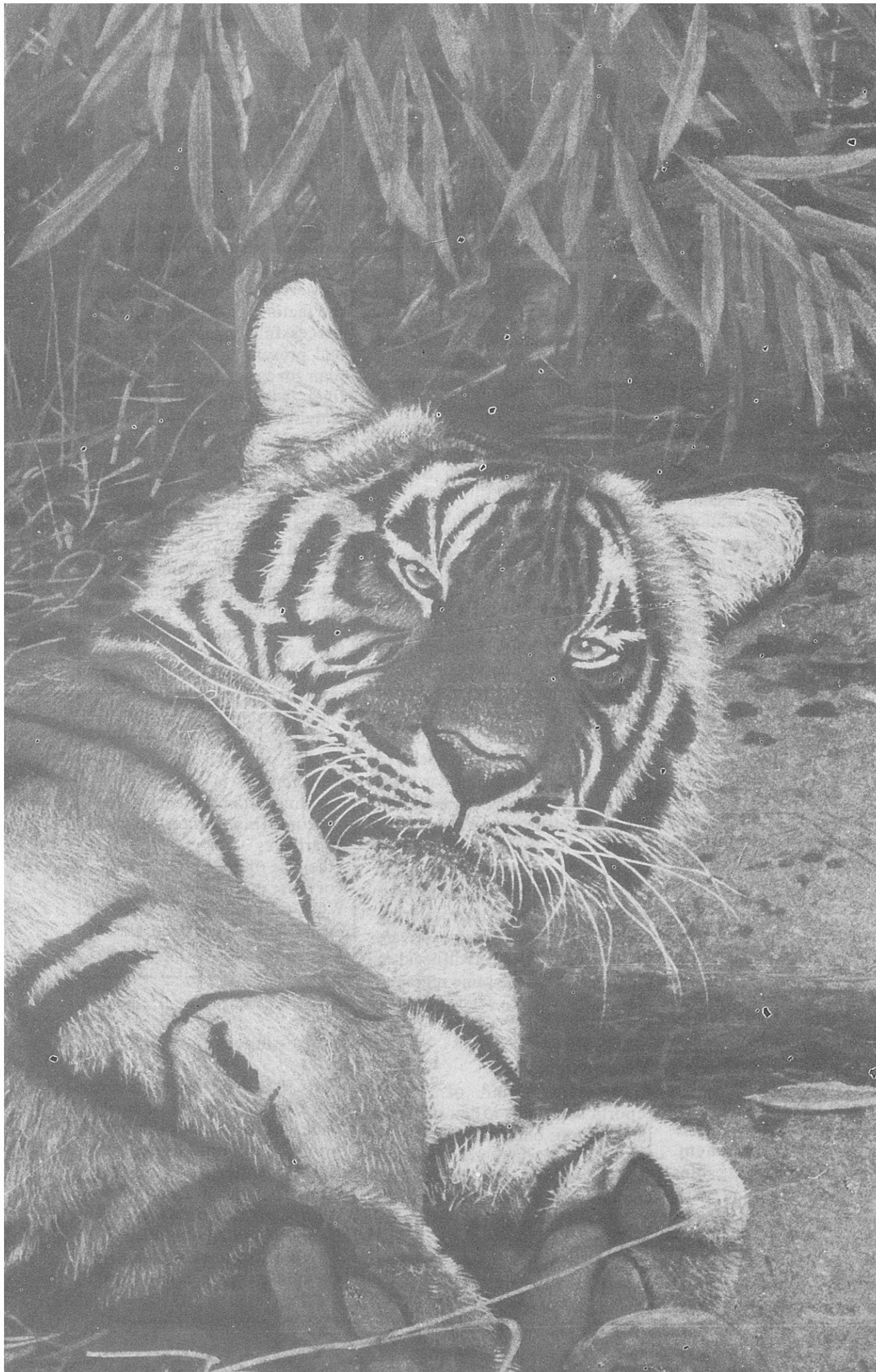
73.6% of Myanmar's 676,553 sq. km is forest land according to a 1989 estimate. The country embraces diverse geophysical features and the diverse ecosystems host a large variety of wildlife species. Wildlife conservation dates back to 1859 and their Wildlife Protection Act was enacted in 1936. Protected areas—16 sanctuaries and 3 parks—presently cover 1.07% of the total land area, with plans to increase it to 5%.

Tiger conservation so far has not received much attention and even information on tiger is scanty. They are reported to be "present" and in "Alaungdaw Kathapa National Park and in Wildlife Sanctuaries and reserved forests" (Forest Dept. report, 1993). Tiger is reported from such areas as Southern Arakan *Yoma*, Central Arakan *Yoma*, Bago *Yoma*, Tamanthi National Park, Alaungdaw Kathapa, Kyaukpandaung and Kinda hydro-electric project watershed.

Yet its status is precarious due to habitat disturbance (shifting cultivation, logging) and poaching for bones. In Arakan *Yoma*, approximately 16,000 sq. km, tiger and its prey species occur in very low density due to incessant hunting by the Chin tribals. When the demand for tiger bones soared a few years ago many Chin tribals took to poaching as a profession. It is reported that kills were poisoned and as a result of the systematic persecution, tiger numbers have plunged to rock bottom in most forest areas.

Yet there is still hope as Myanmar is reported to have a vast habitat intact in most places. Support of local people through proper conservation education and improved protection through the establishment of functional and viable protected areas can definitely help the tiger to stage a come back.





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Nepal

◆ Nepal has also suffered from the increase in demand for tiger products in traditional Chinese medicines. It is reported that due to commercial poaching, between 1989 and 1991, the tiger population of **Royal Chitawan National Park** was reduced by half (in the late 1980s the tiger populations reached a peak of 88 adults). Anti-poaching teams were then set up and rewards offered for information about poachers. Over 70 poachers have apparently been arrested and imprisoned thanks to these efforts. 25 poachers and traffickers were arrested in 1995.

1995 tiger figures are given as: Chitawan 37, Bardia 28, Parsa 6.

It is reported that every National Park has anti-poaching teams which involve park personnel, local villagers and police in anti-poaching efforts. Enforcement of CITES is taught in the Police training. The National Park Department is creating 'buffer zones' around the parks and an amendment to their wildlife act will provide villages in the buffer zone with 30–50% of the revenue from the park for village products. The revenue sharing scheme will compensate the villagers for their loss of crops and life to wildlife and will provide greater incentive for them to preserve the park and discourage poaching.

Russia

◆ "Things could hardly be worse for the Siberian tiger." The population has plummeted to a few hundred, poaching is rampant but a new initiative seems to be having an impact as a band of dedicated anti-poaching police get down to field action and enforcement. Poachers are being caught, skins seized and 7 fully armed anti-poaching teams are on the move. The main supporters of these teams financially are Tusk Force (TF), WWF-Germany and the Global Security Network (GSN). The

Siberian Tiger Coalition which includes, TF, GSN and the David Shepherd Conservation Foundation also directly fund tiger conservation in the area.

In February this year, the region's biggest ever census took place and although the data will not be analysed before July, organisers sense that numbers may be better than expected. The Hornocker Wildlife Institute is undertaking research and WWF's Siberian Tiger appeal also provides financial support. For more information write to:

The Siberian Tiger Coalition, c/o Tusk Force, 4 Spencer Court, 140-142 Wandsworth High Street, London SW18 4JJ

(Source: *BBC Wildlife* Vol. 14, June 1996)

US Supported Logging Threatens Amur Tiger Range

◆ In a letter to Vice-President Albert Gore, forty-seven US and Russian environmental groups have expressed alarm about the negative environmental consequences of growing US federal financing of private companies logging Russia's primary forests, particularly in Siberia and the Russian Far East.

They pointed out the contradiction of simultaneously supporting NGO initiatives to conserve the forests and wildlife, including habitat of the endangered Amur (Siberian) tiger, while at the same time pouring millions of public dollars into private joint timber ventures that will liquidate the forests from the same region.

(Source: *Cat News* No.24)

Vietnam

◆ Elizabeth Kemf of WWF reports two tigers killed recently in **Vietnam**; one was killed in A Luoi District where villagers had complained of livestock loss. The hunters were arrested and fined. Another tiger was killed in Kontum province after it apparently attacked a hunter whose friends killed it.

(Source: *Cat News* No.24)

Saving the Tiger—a conservation strategy

◆ In November, 1995 the **Wildlife Conservation Society (WCS)** published their policy report no.3. This report provides a historical overview of the tiger's status and past efforts to conserve the species, highlights the factors which are hindering successful conservation efforts and presents a detailed action plan for ensuring the future of tigers in the wild. These detailed activities fall under the following general heads:

- status surveys, monitoring populations and in-depth ecological studies on tigers
- creating new legal and policy initiatives for on-the-ground protection and for reducing and controlling the trade in tiger parts and products
- implementing anti-hunting and PA laws
- reducing human impacts on critical tiger habitats
- implementing trade control laws
- training people and building capacity for long-term management
- dealing with problem tigers
- promoting education and awareness
- the role of zoos

For more information contact: WCS, Office of Public Affairs, Bronx, New York 10460, U.S.A. Tel: 718-220-5090 Fax: 718-364-963

Web Spinners

The **Cat Specialist Group** now has a home page on the world wide web with details about the group, their newsletter, *Cat News*, manifesto: *Saving the Wild Cats* and a summary of *Wild Cats: Status Survey & Conservation Action Plan*. Find it at: http://www.iucn.org/themes/ssc-cats_home.html

A Framework for Identifying High Priority Areas and Actions for the Conservation of Tigers in the Wild

♦ The above named report has been submitted to the **National Fish & Wildlife Foundation** by members of the **World Wildlife Fund-US (WWF)**, the **Wildlife Conservation Society (WCS)** and other consulting biologists. The report covers all "free-ranging tigers" throughout their range. Part I deals with prioritizing areas for conservation of tigers and part II is concerned with priority needs for controlling the trade in tiger products and reducing the demand.

Recognising that tigers are "*uniquely defined by the ecological conditions in which they live*", the authors' approach, in Part I, is "*ecology-based*" rather than "*taxonomy-based*". Thus instead of seeking to conserve putative subspecies of tigers *per se* they are looking "*to conserve a suite of wild areas that represent the range of ecological conditions in which tigers occur*". The authors have divided Asia into five distinct bioregions and then further divided these into eight "*tiger habitat types (THTs)*". In these, approximately 159 "*tiger conservation units (TCUs)*" occur.

TCUs are "*a block or a cluster of blocks of existing habitat that contains, or has the potential to contain, interacting populations of tigers.*" These were then evaluated on a I-III scale with a fourth category for areas with insufficient information that require immediate surveys. Level I are those areas offering the highest probability of persistence of tiger populations over the long term and they are recommended for the highest priority attention. 24 (15%) TCUs fell into this category with virtually all straddling or lying near international boundaries. All tiger range states contain at least one TCU of this level and India contains 10. Levels II and III are those the authors regard as having medium and low probabilities, respectively, of continuing tiger populations in the long term. Several of level I and II TCUs are very large and cannot receive complete protection. However the authors feel that the study can serve as "*a leverage for more 'conservation-friendly' land use and improved landscape management*" within the areas. Strictly protected areas typically only cover a fraction of a TCU. This 'spatial relationship' has particular relevance in India where, according to Govt. census, half of the tiger population lives outside the PA network. The study points towards "*upgrading management for biodiversity in many of the larger TCUs to maintain the long-term health of tiger populations and the ecosystem of which they are part*".

While recognising that the time of the study was too short to assess the likely status of tiger habitats over the next 10-20 years, they feel that their analysis should help guide international donors to those areas requiring most immediate attention and allow them to make a more 'cost-effective' investment in tiger conservation.

Part II, realising that reducing demand for tiger products is also critical to successful long-term conservation of tigers in the wild, recommends "*activities that target three different audiences in the priority consumer countries: traditional Chinese medicine practitioners, users of tiger products and the general public*".

A detailed analysis of this report is essential in India since some experts believe that this report suffers a serious weakness in the lack of ground truthing, surveys and good maps for determining the TCUs. May we suggest that a two-day meeting be held to discuss some of the contents in order to ensure accuracy?

International organisations actively working in India for the tiger include:

Cat Specialist Group World Conservation Union IUCN
Peter Jackson, Chairman, 1172
Bougy, Switzerland
Valmik Thapar, Vice-Chair
(Asia), 19 Kautilya Marg
New Delhi 110 021

Care for the Wild
Chris Jordan, 1 Ashfolds,
Horsham Road, Rusper,
West Sussex RH12 4QX

Global Tiger Patrol
The Basement, 253 New Kings
Road, London SW6 4RB
Peter Lawton, Director,
96, Sector 17, Gurgaon,
Haryana 122001

U.S. Fish and Wildlife Service
Dave Ferguson, Office of
International Affairs, US Fish
& Wildlife Service,
860 Arlington Square,
4401 N. Fairfax Drive,
Arlington, VA22203, U.S.A.

TRAFFIC - International
219 Huntingdon Road,
Cambridge CB3 0DL, U.K.

Environmental Investigation Agency
15 Bowling Green Lane,
London EC1R 0BD, U.K.

National Fish and Wildlife Foundation
1120 Connecticut Avenue NW,
Washington, DC 20036

For information regarding
funding and other assistance,
please write to these
organisations

WPSI News

♦ The Wildlife Protection Society of India (WPSI) has compiled the tiger poaching figures for 1994 and 1995 and details are obtainable from them. WPSI warns that the figures are fragmentary and represent only a fraction of the actual poaching activity in India. 1994: a total of approximately 63 tigers are known to have been killed. In 1995 the total had increased to approximately 73 tigers. WPSI states, "The increase in seizures in M.P. in 1995, as compared to earlier years is possibly the result of operations by the State Govt.'s Tiger Cell that was created in March 1994. It is hoped that this creditable example...is followed by other states."

Seizures In Brief

♦ 23 Dec. 1995, New Delhi wildlife authorities seized about 172 Shahtoosh shawls weighing 44 kg which represents about 320 Chiru (Tibetan Antelope). Though this operation is highly commendable, the problem is far from over as Shahtoosh shawls are still available at many other locations. Government enforcement agencies and NGOs have to remain active to bring this trade to a halt. At the Indo-Nepal and Indo-Tibetan borders Shahtoosh is often traded for tiger bones, which in turn fuels tiger poaching in India.

9 Jan., 1996, 1 leopard skin was seized and 3 people arrested near Dudhwa NP (U.P.).

15-20 Jan., 1996, 2 leopards were found with their paws chopped off, 1 was found in Powai and the other

near Thane, near Bombay (Maharashtra).

17 Jan., 1996, Delhi police seized 3 leopard skins and arrested 2 people near Rao Tularam Marg, New Delhi. 2 of the skins had bullet marks on them.

21 Jan., 1996, 1 tiger skin and 6 leopard skins were seized in Chandrapur (near Nagpur, Maharashtra). 8 people were arrested in connection with this seizure.

22 Jan., 1996, local police in Ramnagar (Nainital, U.P.) seized a 10 feet long leopard skin and arrested 2 people. The leopard skin had bullet marks.

28 Jan., 1996, police seized 1 leopard skin and arrested 3 people in Noida (U.P.).

29 Jan., 1996, police seized 1 tiger skin and 20 leopard skins from a box on a hand cart at New Jalpaiguri railway station (West Bengal). It is believed the skins were marked with a swastika symbol and the initials 'JJ'. The skins originated from Assam and were being smuggled to Calcutta.

14 Feb., 1996, the skins of 3 leopard, 1 leopard cat and 1 Himalayan palm civet were seized from a trader near Manali in Himachal Pradesh. It is believed that this was the first case related to wildlife trade in the State.

29 Feb., 1996, Lakhimpur-Kheri (U.P.), police arrested 6 people and seized 1 tiger skin, 1 leopard skin, 2½ kg of ivory and 6 antlers.

1 Mar., 1996, Kotwali (Haldwani, U.P.), police seized 4 leopard skins and arrested 3 people.

15 Mar., 1996, 1 large tiger skin and 12½ kg of ivory were seized near Pilibhit (U.P.). 4 people have been arrested (BASTF).

30 Mar., 1996, 3 tiger skins and 3 leopard skins were seized at Bahraich (U.P.). 4 people have been arrested in connection with the seizure, (BASTF).

5 Apr., 1996, 1 leopard skin was seized and 1 person arrested in Muzaffarnagar (U.P.).

16 Apr., 1996, Officers of the Special Cell arrested one person and

Congratulations to Nagpur Forest Officials

♦ In January 1996 forest officials of the Nagpur Forest Circle succeeded in arresting eight offenders, including one woman, and seizing one tiger and six leopard skins in a number of daring raids in the Gadchiroli, Chandrapur and Nagpur Districts. **Range Forest Officer, Shri K.G. Aloorkar**, of the Nagpur Forest Division has been mentioned as displaying "extraordinary courage, skill and initiative" and his role was most vital in the entire operation. Acting on secret information, traps were laid with pseudo purchasers and the offenders fell into the traps. It is reported that Shri Aloorkar "very shrewdly...convinced the offenders of his being the driver of the car thereby luring them to accompany him from their place of hiding together with the skins. Going into the places of hiding of the offenders was indeed dangerous work as any suspicion about (his) identity could have proved fatal. As the car approached the waiting enforcement party of forest officials in Wadsa, the offenders became belligerent and tried hard to overpower (him). However he remained undeterred and succeeded not only in pinning all the three of them down with the help of the informer, rather also drove the car simultaneously to reach the spot where waiting party effectively apprehended the offenders. The shrewd, fearless, brilliant performance of Shri Aloorkar...was the key instrument for the successful execution of this operation." The Conservator of Forests, Nagpur Circle, Shri Tasneem Ahmad has strongly recommended Shri Aloorkar's name for an award befitting his endeavour and zeal. Other officers involved in these successful operations were Dy. Conservator of Forests, A.V. Mardikar & P.N. Muda; RFOs B.W. Jiwankar, K.A. Mishrikotkar and D.P. Deshmukh, Sub-DFO A.J. Ahmed, Foresters D.R. Nandanwar and S.B. Aswale and Shri Deole, Police Sub-Inspector, Tisel Police Station.

recovered 6 tiger skins from his possession in Usmanpur, Delhi.

29 Apr., 1996, 1 tiger skin and 20 leopard skins were seized by central excise and police officials from a village under Bolgada police station near Bhubaneswar (Orissa). Three people have been arrested.

Note: In parts of U.P. there have been reports of large numbers of fake tiger skins entering the market. On 8 April, 1996, over 12 fake skins were seized from Muzaffarnagar and Meerut (U.P.). The matter is being investigated.

(Source: Wildlife Protection Society of India, Thapar House, 124 Janpath, New Delhi 110 001)

WPSI thanks all participants of TigerLink who have sent them information on poaching and wildlife trade. A new computer with appropriate software has been installed for this database project and they urge everyone to continue their efforts.

Control of Illegal Trade in Wildlife Products in West Bengal

◆ WPSI has started a research project on the control of illegal trade in wildlife and wildlife products in the State of West Bengal. The project comes under the West Bengal Forestry Programme. The aim of the project is to identify:

- wildlife species and their products in the trade;
- the magnitude of the illegal trade;
- sources of origin (both within and outside the state);
- prices and profits made; and
- to develop a database on people involved in the illegal trade, the methods used by them, trade routes etc.

Investigations have found that tiger poaching and trade is prevalent in West Bengal. This study will assist in tiger conservation and help in controlling illegal wildlife trade in the state.

Centre to assist States in anti-poaching work

At the November 1995 conference of Principal Chief Conservators of Forests in New Delhi each State was asked for a status report on four major issues: 1. Implementation of the Subramaniam Committee report on the Prevention of Illegal Trade in Wildlife and Wildlife Products; 2. Creation of surveillance cells for gathering intelligence; 3. Introduction of reward schemes; 4. Provision of amenities and incentives and other welfare measures for staff.

Later the same month **Shri Rajesh Pilot, Minister, Environment & Forests** sent a letter to all the States regarding the problems of poaching and illegal trade in wildlife and the **inadequate resources** being earmarked in the State Plan Budget for dealing with this matter since the scheme was transferred to the States Sector, during 1992-93, on the recommendation of the National Development Council. He writes that the problem "*cannot be tackled by the Forest & Wildlife Department alone*". "*At the Govt. of India level, my Ministry has established a National Coordination Committee consisting of representatives of all major enforcement organizations such as the Customs, Revenue Intelligence, Police, Army, ITBP, BSF, etc. which meets periodically to review on-going measures and draw up effective strategies for control of poaching and smuggling of wildlife. I would suggest that a similar coordination committee should be set up at the State level also...*".

Noting the effectiveness of M.P.'s 'Tiger Cell', he suggests establishment of '**Environmental Surveillance Cells**' at the State level to collect intelligence and take effective pre-emptive and deterrent action on wildlife poaching and trade. Financial assistance from the Ministry under Project Tiger and Project Elephant schemes would be available for payment of rewards to informers and intelligence gathering if specific schemes were operated at the State level. He also requests immediate action on the establishment of a **Special Strike Force**, noting that "*progress in the States has been rather slow*". The Ministry has "*decided to provide financial assistance to the States under PT scheme for the purpose*".

This initiative on the part of the Minister was followed up in December by a communication from the Secretary, Environment & Forests, to the Chief Secretaries of all the States urging priority for the same issues.

◆ The **Central Bureau of Investigation (CBI)** publishes a CBI Bulletin 'restricted for police use only' and the February issue was a wildlife crime special. This was coordinated by the WPSI and guest edited by Tariq Aziz. Articles cover various aspects of the wildlife trade, CITES and law enforcement in India with specific pieces on the ivory, medicinal plant and rhino horn trade as well as on the tiger poaching crisis. It is expected and hoped that this issue will improve co-operation between NGOs and enforcement agencies and encourage police officers into taking greater interest in wildlife issues.

◆ The **Billy Arjan Singh Tiger Foundation (BASTF)** has sent information from Dudhwa that, in the last six months, **ten tigers and four leopard skins** were seized and several persons arrested, in the region.

◆ The **Ministry of Environment & Forests and the Wildlife Institute of India (W.I.I.)** in November 1995, organised a **workshop in Dehra Dun on illegal wildlife trade**. Trainees were exposed to facts on illegal trade operations and the reasons why enforcement agencies have so far failed to curb the trade.

◆ NGOs from several east Asian countries joined hands to found the **Asian Conservation Alliance (ACA)** in a bid to stop the illegal wildlife trade in this region. The Wildlife Protection Society of India (WPSI) was at the founding general assembly in Japan in November 1995 where a resolution was drafted for ratification by members. The Wildlife Conservation Philosophy Society of Japan (JWCS) was nominated as the co-ordinating agency and the JWCS secretary-general was elected the Secretary of the Alliance. The following day an international **Symposium** was held on **Wildlife Conservation** with presentations from NGOs from India, Thailand, Taiwan, Japan and Korea. WPSI emphasised the significance of the tiger and described the way it is being decimated and the effects of the traditional Chinese medicine market. An appeal was made to the people of Japan to refrain from buying any medicines that contain tiger parts. In India, ACA can be contacted through the WPSI.

Indo-Nepal Joint Commission

◆ India and Nepal are discussing the creation of a Joint Commission to tackle problems of wildlife conservation, in particular the control of poaching and illegal wildlife trade along the extensive Indo-Nepal border. It is expected that the first meeting will take place later this year and Nepal has offered to be the host. Tiger bone trade is known to be prevalent along the Indo-Nepal border and Nepal continues to be used as a transit country in the smuggling of wildlife products. In 1995 there were reportedly ten seizures of tiger skeletons and skins destined for China. Some of these were from Nepal but some were from India and being smuggled through. It is hoped that this Commission will assist in curbing this.

◆ The **US Fish & Wildlife Service (FWS)** in Los Angeles, California, is conducting a public awareness

Tiger Link letter to CITES

A meeting was held in Geneva on 30 January of the **Standing Committee of CITES**. When Tiger Link participants learnt that one of the subjects on the agenda was to be conservation and trade in tiger parts and that India, which is an alternate member of the standing committee, would not be attending due to late notification, they drafted a **letter addressed to Mr Nobutoshi Akao, Chairman of the CITES Standing Committee**, Permanent Mission of Japan to the International Organizations in Vienna and it was signed by 22 Tiger Link individuals and organisations. The following is part of the text:

Tiger Link members fully support the inclusion of all subspecies of the tiger in Appendix-I, completely prohibiting international trade in this species, its derivatives, parts and medications containing these. Tiger Link members also support resolution 9.13 adopted at the conference of parties at Fort Lauderdale, U.S.A. This resolution in fact asks CITES parties and non parties to also prohibit internal trade in tiger derivatives.

We wish to take the opportunity of expressing our viewpoint in the strongest terms that the tiger cannot withstand any trade at all especially in view of the continuing threat to their survival due to poaching to feed an illegal market in tiger parts and also to habitat destruction. One of the members of Tiger Link, the Wildlife Protection Society of India (WPSI) is sending a representative Ms Belinda Wright to meet the Standing Committee and present before them reasons for holding this view. Any attempt towards captive breeding of tigers to meet the trade demand will only enhance demand for tiger derivatives which will cause the even earlier extinction of the tiger. This view is held by all the members of the Tiger Link and other wildlife conservation personalities of India.

...the viewpoint of India, a range country which holds 60% of the world population of tigers will not be available to the Standing Committee. Thus we strongly request that any discussion on the trade in tiger parts and derivatives or on the captive breeding of tigers would be inappropriate without India's presence and should not take place in India's absence. In the mean time we ask that due significance should be given to the voice of the Indian NGOs.

◆ A standing committee notification regarding the implementation of resolution 9.13 states, "the Secretariat, in co-operation with Japan, should arrange for an Asian regional meeting on tiger conservation". At present there is no information on location or a date but developments are being followed, as NGOs should participate in the meeting to put their views across.

program to inform US citizens that certain products for sale in Asian medicine shops may contain parts of endangered or threatened wildlife, as well as toxins potentially harmful to human health. Several NGOs, including TRAFFIC-USA, WWF-USA and WCS are developing complementary public awareness programmes and are working in close collaboration with FWS. Upon

examination of medicinal products purporting to contain tiger or rhino parts, a forensic laboratory reported that although no measurable amounts of either endangered species were present, a number of foreign substances and potentially toxic levels of poisons, such as arsenic and mercury, were found in the products.

(Source: *Cat News* No.24-FWS press release)

'High Court Committee'

The seven member Committee, chaired by Shri M.F. Ahmed, I.G. Forests, that was appointed in July 1995 by the Ministry of Environment & Forests under direction of the High Court of Delhi submitted its recommendations for the preservation and protection of wildlife in February 1996. Some of the important recommendations (in brief) are:

1. Create a separate Ministry for Natural Resources (Forests & Wildlife).
2. Give statutory backing to the Indian Board for Wildlife under the Wildlife (Protection) Act (WPA).
3. All State Wildlife Advisory Boards must be constituted and meet regularly. Honorary Wildlife Wardens must be appointed.
4. Create wildlife wings in Indian & State Forest Services.
5. Ensure special wildlife training also for general category Forest Officers.
6. Increase India's PA network to 7.5% by the year 2000.
7. Create Wildlife Protection Schemes for wildlife residing outside the PA network.
8. PAs should be given more autonomy to utilise funds.
9. Improve anti-poaching measures including implementing the Subramanian Committee report.
10. Take steps to harmonise relationship of forest communities with wildlife.
11. All PAs must have an advisory council made up of village and local representatives that are involved in the problems of the park.
12. Take steps to reduce pressure of urbanisation and economic development on wildlife habitats.
13. Harness revenue from low impact tourism to conservation and community development.
14. Take steps to reduce human and livestock pressure on critical wildlife habitats.
15. A minimum of 15% of total forestry budget should be earmarked for wildlife management. Both financial and other resources have to be enhanced.

Subsequent to submission of the report, a note was added by a member of the Committee submitting that

National Parks and Sanctuaries should be declared "no development zones" and recommending that an area within 25 km from the boundary of every N.P. and sanctuary be kept free of any industry which causes air and water pollution and that no industry or manufacturing unit should be permitted within 5 km of the PA's boundary.

On 21 May, the MoEF told the High Court that bifurcation of the Ministry (point 1, above) is under examination and consultations are underway with other Ministries.

The MoEF also stated (in response to point 12, above) that it endorsed the suggestion of "minimal development zones" around PAs and 'sensitive wildlife habitats'. In response to the note, the Ministry said, "N.P.s and Sanctuaries have been categorised as ecologically sensitive areas and no industrial activity or building of infrastructure is normally permitted within a 25 km radius. Proposals are examined in detail and permission, if at all, is granted more as a rare exception than as a rule." (Would readers like to comment?) Existing environmental guidelines do exist regarding keeping a 25 km radius free from pollution but these are not backed by legal sanctions. "Legislative action, if any, will need the approval of Parliament." As on many of the issues relating to law, the Ministry stated that the committee chaired by Dr Ranjitsinh, which is due to report in six months' time, is looking into the matter.

Many of the other suggestions from the report are said to be in the pipeline and/or to have been included in the IXth Five Year Plan, including Central Sector Schemes for controlling poaching and wildlife trade.

It is genuinely hoped that all these recommendations do not remain in a pipeline from one committee to another until the next century but find immediate use in the tigers habitat without bureaucratic delay. For copies of the Committee's report write to: Shri M.F. Ahmed, I.G. Forests, MoEF, Paryavaran Bhawan, CGO Complex, Lodi Estate, New Delhi 110 003. Tel: (011) 436 1669.

'Wildlife Act Committee'

♦ A committee has been set up by the MoEF under the chair of Dr M.K. Ranjitsinh to examine and recommend changes to the **Wildlife (Protection) Act 1972**. Many important points are being considered including: the constitution of a permanent Indian Board for Wildlife (IBWL) and State Boards for Wildlife; concept of 'no development zones' around PAs; how to speed up process of determining/acquiring/settling of rights so that the PAs can be given final notifications; how to avoid Narayan Sarovar type situation of State de-notification of sanctuaries; devising protected legal standing for areas other than national parks and sanctuaries, eg. multiple use areas where some form of joint management can take place; various issues

concerning wildlife trade/exploitation and poaching; questions of arms and quasi judicial powers for forest department officers.

The Committee has met with several NGOs who have presented their views and suggestions, amongst these were *VIKSAT* (Ahmedabad), *Vikalp* (Saharanpur), *Indian Social Institute*, *Kalpavriksh*, *IIPA*, *Centre for Environmental Law (WWF-India)*, *Ranthambhore Foundation* (all New Delhi) and a coalition of several NGOs from Karnataka working with tribals. Written submissions have also been sent by the *National Committee for the Protection of Common Land Resources*, a coalition of NGOs, from *Wildlife First!* in Bangalore and several from the *IIPA Joint Protected Area Management (JPAM)* team.

Supreme Court—on final notifications

A writ petition had been filed in the Supreme Court challenging the legality and constitutional validity of the M.P. Forest Department's order allowing collection of tendu leaves from National Parks and Sanctuaries in Madhya Pradesh. In disposing of the petition the Chief Justice of India states in his judgement, "In our country, the total forest cover is far less than the ideal minimum of one-third of the total land. We cannot, therefore, afford any further shrinkage in the forest cover of our country. If one of the reasons for this shrinkage is the entry of villagers and tribals living in and around the Sanctuaries and National Parks, there can be no doubt that urgent steps must be taken to prevent any destruction or damage to the environment, the flora and fauna and wildlife of those areas. If the only reason which compels the State Government to permit entry and collection of tendu leaves is it not having acquired the rights of villagers/tribals and having failed to locate any area for their rehabilitation, we think that inertia in this behalf cannot be tolerated. We are, therefore, of the opinion that while we do not quash the order of 28.3.1995, we think that the State Government must be directed to decide on the question of completing the process for issuing final notification and then take urgent steps to complete the procedure for declaring/notifying the areas as Sanctuaries and National Parks under Sections 26A and 35 of the Act. We, therefore, direct that the State Government shall take immediate action under Chapter IV of the Act and institute an inquiry, acquire the rights of those who claim any right in or over any land proposed to be included in the Sanctuary/National Park and thereafter proceed to issue a final notification under Section 26A and 35 of the Act declaring such areas as Sanctuaries/National Parks. We direct the State Government to initiate action in this behalf within a period of six months from today and expeditiously conclude the same showing that a sense of urgency is expected of a State Government in such matters as enjoined by Article 48A of the Constitution and at the same time keeping in view the duty enshrined in Article 51A (g) of the Constitution."

LAW-E News

Successful defence of Corbett Deputy Ranger

♦ Hari Singh Karmiyal, a hard working officer known for his dedication and integrity is presently posted as Deputy Ranger at the Corbett National Park. Earlier, while serving at the Lucknow Zoological Park, he was victimised by his superior officer and departmental proceedings were brought against him to harrass him. He moved the High Court in Lucknow and obtained an interim order in his favour and later also favourable final orders. However his superior officer, through the department, then filed a special leave petition in the Supreme Court. The matter was heard on 21.3.96. Hari Singh Karmiyal was defended by LAW-E member, Mr Devender Singh and the Supreme Court Bench dismissed the petition.

Supreme Court intervenes to save Nilgiri forests

♦ LAW-E member, Shri P.K. Manohar moved a petition in the Supreme Court on behalf of a member of the Nilambur Kovilakam (tribal rulers) which owned about 65,000 acres of virgin forest land in the Gudalur and Nilgiri taluk of Tamil Nadu. The petition challenged the indiscriminate felling of trees in the forest which claim to have been vested in the Government of Tamil Nadu under the Gudalur Jenmom Estate. The petitioner affirmed that large scale encroachments have been made into the forest land

and that large scale felling and clearing of the forest has taken place in violation of several forest protection acts. Pending a full hearing, the court continued the interim order, imposing a stay on the cutting of trees in the Nilgiri District, and further directed that the timber which had already been cut should not be removed until further orders, irrespective of any permits or permission granted to that effect by any authority.

The Tragedy of Madhav National Park

♦ It is reported that the Madhav National Park, adjacent to Shivpuri, M.P., is suffering from yet another serious set of problems which may become a complicated legal issue.

It has recently been brought to light that out of 16,000 ha of National Park notified in the first instance, 3,106 ha were cleared for submergence by the Sindh Phase II Project (Mohini Sagar Dam).

To add to the burdens of this park, seven mines within the area have also received MoEF clearance to remove materials.

It appears that the Environmental Protection Act, the Forest Conservation Act and the Wildlife (Protection) Act are also being violated in the ongoing saga of this park.

UPDATE ON THE TIGER ECOLOGY PROJECT IN PANNA NATIONAL PARK, MADHYA PRADESH

Field work on this tiger ecology research project of the Wildlife Institute of India began in Panna National Park in January 1996. I spent two months in the field establishing a research base and identifying tigers to be radio-collared. During this time several census counts were conducted to get some preliminary information on prey distribution and abundance. Regular monitoring of tiger movement by following their tracks provided approximate information about their ranges. This was necessary in order to be able to target the particular tigers we intended to radio-collar.

The dry deciduous vegetation of Panna mostly consists of miscellaneous forests of teak, *Terminalia*, *Acacia* and *Zizyphus* species. The topography is characterised by two plateaux rising steeply in steps from the main valley floor through which flows the perennial Ken river. Common herbivore species found in the area are nilgai, sambar, cheetal, chowsingha, chinkara and wild pig. Besides these, a large population of domestic livestock is dependent on the area for grazing, putting severe pressure on the park's natural resources.

The intensive study area, of approximately 100 sq. km in the Hinauta range, lies on the lower plateau. Here I identified six adult tigers who were using an area of 50–70 sq. km. Expert veterinary assistance was taken for the chemical restraint of the tigers for radio-collaring purposes. Dr Peshin, a specialist in anaesthesia from Hissar Agriculture University, Dr Srivastav from the Veterinary College in Jabalpur and Dr P.K. Malik of the W.I.I. provided their experience for the darting and tranquillising of the tigers. The depth of knowledge of these doctors was profound and I particularly appreciated learning from the care and expertise with which they handled the tranquillized tigers. The Park's field staff also provided invaluable active support as they have done throughout the project. This support has been most encouraging for the research team.

Two tigers were successfully radio-collared during the month of April 1996. One was a large male in its prime, approximately 5–6 years and weighing over 250 kg. This may be the dominant male and a

few weeks monitoring suggest that it may be using an area of over 60–80 sq. km. The other individual radio-collared is a sub-adult female possibly just separating from her maternal territory. At this age tigers are most vulnerable to factors of mortality due to the perils of dispersal and establishment of their own territories. But we hope that this female will survive to provide critical information on the survival, dispersal and mechanisms of territory formation. Information on such juvenile animals would be very valuable for conservation ecology of tigers.

Mr Neel Gogate, the researcher on this tiger ecology project, is monitoring the movements of these animals systematically. Each collared tiger is monitored daily and locations are determined by triangulation from two to three points every six hours. He will also be laying several foot transects and will run vehicle counts to determine the prey abundance in the intensive study area.

This study addresses three major aspects of tiger ecology, the findings of which will have long term management implications.

1. Feeding ecology: Information collected on the predator-prey relationships will help in determining the prey requirement for tiger. Availability and structure of prey communities will allow us to determine the minimum size of a protected area required to sustain a demographically viable population of tigers. With this information the potential of India's PA network for conserving tigers and their habitat can be predicted.

2. Tigers in different habitats: Information on habitat utilization by tiger will help in predicting patterns of habitat selection. This information will be useful in targeting special management programmes for crucial tiger habitats.

3. Dispersal of tigers: Dispersal of juveniles play a significant role in population dynamics, maintaining genetic variability and determining the reproductive success of a population.

Dr R.S. Chundawat, Principal Investigator, Tiger Ecology Project, Wildlife Institute of India, Dehra Dun. May 1996.

♦ **Panna Tiger Reserve** is also the location for a sloth bear study. This project, also of the W.I.I., is looking at the ecology and ranging patterns of sloth bear and will involve the radio collaring of 12 individuals. The bears perhaps have other ideas—five collars have been attached so far but only three remain in place as two of

the bears managed to remove theirs.

♦ Reports have come of a major fight between a tiger and a sloth bear in the Mandla range of Panna Tiger Reserve. The bear was killed and partially eaten; as yet the injuries to the tiger are unknown. Neither were collared animals.

SURVEY OF INDIAN TIGERS—UPDATE

My research project to assess the status of tigers and their prey through sample surveys covering a range of representative tiger habitats is supported by the Wildlife Conservation Society, New York and the U.S. Fish and Wildlife Service. The field work in Kanha National Park was successfully completed between September 1995 and January 1996. The camera traps were particularly successful in Kanha because of the availability of a nice network of roads which enabled camera deployment over a large area, and due to the absence of elephants which sometimes damage camera traps. However, Kanha tigers did attack and destroy two cameras, one of them being 'caught in the act' by the second camera at the site! The line transect surveys of prey species and their pellets/dung also yielded substantial data. At the end of the project period, I was able to train some staff of the M.P. Forest Department in the basics of this line transect survey method, thanks to the initiative of the Field Director, Kanha Tiger Reserve, Mr Rajesh Gopal.

My research assistants Samba Kumar, Kartick Satyanarayan and Ravi, moved to Kaziranga in February 1996 to commence work. From the outset superb cooperation from the Assam Forest Department officials and from Mr Manju Barua of Guwahati, allowed us to make rapid progress.

Camera traps once again yielded superb results, although damage from elephants was an occasional problem. Considering the topography and vegetation patterns, line transect surveys of prey species were done from elephant back and from vehicles. Additionally, using the watch towers, we also carried out point transect sampling. The field work was completed in mid May, and the team returned to their base at Nagarahole. After the monsoon break, the field work will begin in the next project site at Namdapha Tiger Reserve in Arunachal Pradesh.

In the mean time, the field work in Nagarahole was being carried on by research assistants, Ravindra and Balachandra Hegde, and the line transect surveys were done with the help of NGO volunteers. *Wildlife First!* participants, K.M. Chinnappa, G.R. Sanath Kumar, D.V. Girish, Dayananda, Amarnath, Praveen Bhargav, V. Krishna Prasad and B.K. Sharath assisted me as co-instructors. A notable feature of the 1996 transect survey was the diversity of participant trainees who included biologists, agricultural scientists, engineers, software programmers, businessmen, students and tribal youths of Mysore and Kodagu districts.

K. Ullas Karanth, Associate Research Ecologist, Wildlife Conservation Society (India Program), Mysore 570023. May 1996.

◆ The **Wildlife Information Network (WIN)**, based at the Royal Veterinary College, London, is developing a computer based system of collection and dissemination of **veterinary and husbandry information pertaining specifically to wild animals**. They are planning this programme in modular form to create an "Electronic Manual" and the first one will be dealing with carnivores. Each module will comprise of species identification/taxonomy search and lead on to species specific information on veterinary and husbandry aspects. There are also sections on natural history, best practice and a directory of people and places of recognised excellence for further research. Anyone wishing to know more please contact:
Tom Gardner, WIN, Royal Veterinary College, Royal College Street, London NW1 0TU. Tel: (00 44) 171 388 7003; Fax: 171 388 7110.

◆ The **Zoological Survey of India** has started two research projects in the **Buxa Tiger Reserve**, one on pangolins and the other on giant squirrels.

Calcutta University is doing a survey of the insect fauna in Buxa.

MoEF Fellowships

◆ To encourage young people to pursue research topics relating to the conservation and management of wildlife, and in respectful memory of Dr Salim Ali and Shri Kailash Sankhala, the Ministry of Environment & Forests awards two fellowships: the Salim Ali fellowship is awarded for research in avian species and the Sankhala fellowship for mammalian species. These are awarded in alternate years. The Sankhala fellowship award will be announced in October 1996.

Tigresses more loyal to territory; post-natal territory smaller

◆ The results of P.C.Kotwal's and Rajesh Gopal's ten years' research on tigers in Kanha National Park was published in *Tiger Paper*, Vol. 22 No 4. "**Radio-telemetry & Field Observations on Territoriality of Tigers in Kanha National Park**". The authors radio-collared 4 tigers—one male and three females—between 1980 and 1986, though they received less than 40 signals in total and rely more on their field observations.

USE OF CAMERA TRAP DATA TO ESTIMATE TIGER POPULATION— NEED FOR CAUTION

One of the major problems facing tiger conservation today is our inability to accurately estimate its population in a given tract. Population estimation based on pugmarks, the traditional method (Choudhury, 1970; Panwar 1979), has been questioned (Karanth 1995) as most of the parameters used for population estimation have not been statistically validated. Gore *et al.* (1993) concluded that sex can be identified but the technique for individual identification needs to be refined.

It is believed that individual tigers can be identified based on facial markings and stripe patterns (Champion 1927, Schaller 1967, McDougal 1977). Based on this assumption, Karanth (1995) had applied capture-recapture technique for tiger population estimation. He used self-activated cameras to identify individual tigers based on stripe pattern. Data on individuals identified during a time period were then used to estimate the population.

Since December 1994 in Dholkhand, the mini-core area in Rajaji National Park in north-western India, we have been using self-activated camera units to photograph tigers. Till November 1995, tigers could be photographed six times over eighty five camera trap nights.

Three new facets about the use of camera trap technique arose when we asked our colleagues at the Institute to identify individual tigers based on these photographs.

In one case, the face of a tiger was photographed twice with a time difference of nine seconds. In the first picture one of the face stripes is connected with the eye and in the second, due to a slight change in posture, the stripe looks as if separated from the eye. This had made 100% of our colleagues (N=20) identify the photographs as belonging to two different tigers.

Another time, two photographs of the lateral side of a tiger were taken one after the other. All (N=13) identified them as two different individuals. The track data, however, had shown that only one tiger had walked in front of the camera. When we examined the face picture of these two tiger photographs, ten major stripes were seen in both the pictures. But in the second picture a loop had been formed due to change in posture. Seventy eight per cent of our colleagues (N=9) identified these face pictures as belonging to two animals.

When we critically looked at the reason for this confusion we discovered that twenty four stripes above the belly and shoulder were identical in both the photographs. There were considerable variations,

however, between the two photographs when the stripe pattern on the flank above the elbow joint and hind quarters of the body were compared. We observed similar variations in the stripe pattern of a tiger photographed in Delhi Zoo. The left side of the tiger was photographed 3 times and the right side 4 times. When photographs of a particular side were compared to one another all showed individual variations. These variations are attributed to the loose nature of the skin on the upper parts of the body. As a result, slight changes in the body posture bring about variations in the way stripes appear from one photograph to the other.

From these preliminary observations we conclude the following:

1. Movements are likely to cause least variations in the stripes on the face as the skin is tight. But we have to ascertain, based on photographs of captive animals, whether there are enough variations in face stripes to identify individuals.
2. Shift in postures cause considerable variations in the stripe patterns on the hind quarters and flank above the elbow joint and this is attributed to the loose nature of the skin on these parts of the body.
3. Stripes above the belly and shoulder show least variations due to movements. This, however, needs to be ascertained with a large sample from captive tigers.

We conclude that identifying individual tigers based on stripe patterns may not be as easy as it appears to be. Variations could appear in photographs of the same animal due to slight changes in posture. These findings need to be taken into account in any future programme to estimate the population of tigers based on camera traps.

S.P. Goyal and A.J.T. Johnsingh, Wildlife Institute of India, Dehra Dun 248 001

References

- Champion, F.W.** (1927). With a camera in tiger land. Chatto & Windus, London.
- Choudhury, S.R.** (1970). The tiger tracer. *Cheetal*. 13:27-31.
- Gore, A.P., Paranjpe, S.A., Rajgopalan, G., Kharshikar, A.V., Joshi, N.V., Watne, M.G., and Gogate, M.G.** (1993). Tiger census: role of quantification. *Current Science*. Vol. 64:711-714.
- Karanth, K.U.** (1995). Estimating tiger *Panthera tigris* populations from camera trap data using capture-recapture models. *Biological Conservation*. 71:333-38.
- Panwar, H.S.** (1979). A note on tiger census technique based on pug mark tracings. *Ind. For. (Spec. Issue)*, 18-36.

WWF-India

◆ *“WWF-India has recently announced a **Tiger Conservation Strategy and Action Plan** aimed at providing the much needed fillip to tiger conservation in India. The overall goal of this strategy is to strengthen the ongoing efforts for the protection of the tiger, essentially through new and innovative initiatives aimed at improving the status of the species in the long term.*

In formulating this strategy and action plan, WWF-India has drawn upon the experience of experts to select such key activities that are likely to produce significant results in the shortest possible time. The main thrust of the strategy and action plan is on the following:

- *Influencing policy and decision making at the level of the Government of India.*
- *Assisting and strengthening enforcement measures.*
- *Generating greater awareness and public support for the tiger.*
- *Mobilizing grassroots support in tiger range areas through networking with field-based NGOs and other interested groups.*
- *International networking to facilitate international cooperation, specially to address transboundary issues and CITES matter.”*

◆ As a step towards the above, in March 1996, WWF-India brought out a glossy colour publication, *The Tiger Call* with articles on different aspects of the tiger and its conservation, contributed by Dr M.S. Swaminathan, Samar Singh, Dr Karan Singh, S.C. Dey, Ranjit Talwar, Kishore Rao, Dr M.K. Ranjitsinh, Valmik Thapar and Raj Panjwani. Mr S.C. Dey, Addl. I.G. Forests, outlines the steps taken by India

which have led to *“an increased detection of illegal trafficking of wildlife and wildlife products and the number of cases detected in respect of tiger parts and products, which was only 13 in 1994, increased to 25 as of December 1995”*. He reports: *“These steps have reversed the position in some of the tiger reserves as seen in the 1995 census, which showed an increase in the tiger population in 11 of the 16 tiger reserves and a decrease in tiger poaching cases from 18 in 1994 to five in 1995.”* He states: *“these go to prove that India has taken all possible steps to save the tiger, given the limited resources available.”* Ranjit Talwar, Administrator of TRAFFIC-India, however, opines that, *“the overall performance of ‘Project Tiger’...leaves much to be desired”*. He adds: *“even vital information on poaching and tiger deaths in the states is not reported to the Directorate on a regular basis and if provided, it is of doubtful value”*. This seems borne out by the story of the ‘figure of one’ (Valmik Thapar). In late 1995, in reply to a question in the Lok Sabha, the Minister of Environment & Forests, briefed by his Ministry, informed the house that only **one** tiger had been poached between January and July 1995! (Is this *“increased detection of illegal trafficking”*? and compare *“In 1995...between 300 and 400 tigers might have been lost.”* Peter Jackson (see opposite page). In his article, Mr Valmik Thapar writes, *“the truth is that at least 36–50 seizures have taken place (in Madhya Pradesh alone) and a very effective Tiger Cell created in the police headquarters in Bhopal is attempting to battle the problem”*.

◆ WWF-India has just started a monthly *Tiger Update*.

Hybrids—saviours or a threat?

◆ **Shri Billy Arjan Singh** recently published a small booklet, **Save the Tiger—The Last Ditch**, in which he presents a history of the story of Tara, the zoo-born tigress he introduced to Dudhwa National Park.

He writes that some confusion, doubt and disagreement exist as to exactly what happened to Tara after she left *Tigerhaven* but states that there is now a male tiger in Dudhwa with *“characteristics of Siberian stock”*. He suggests that *“if feasible”* a DNA test be carried out to ascertain whether it really does have *“foreign genes”*, and thus also whether he is truly an offspring of Tara. He says that doing this would also *“indicate the possibility of a fresh infusion of genes into a constricted*

population” which he believes is now the *“only method of saving the tiger for posterity”*. This is based on his belief that *“the restricted populations of Tiger Reserves are all fated to see the extinction of the tiger due to inbreeding”* and that all the various subspecies of tiger are *“basically the same animal”*.

Arjan Singh’s booklet ends with *“The Last Hurrah”*, his analysis of where we are now, the absurdity of the Forest Department administering wildlife and the need to take protection of wildlife to the Supreme Court. Arjan Singh is keen to evoke some response to his discussions and points. Copies of the booklet may be available from him at Tigerhaven, Palia Kalan, Dist. Kheri, 262902, U.P.

WWF-International

♦ On 16 May the **World Wide Fund for Nature**, Switzerland, released their new 1996 species status report, *Tigers in the Wild*, with the press release headline: “*Tigers drawing closer to extinction*”. Authors, Elizabeth Kemf (Species Conservation Co-ordinator at WWF International) and Peter Jackson (Chairman of the Cat Specialist group of IUCN - The World Conservation Union) warn: “*Counting tigers is extremely difficult since they live secretly, often in dense forests, but the latest estimates reveal that the number of tigers remaining in the wild could be as low as 4,600 down from 5,000 in 1994*”. Habitat loss and increased trade in tiger parts have put the animal at greater risk than ever throughout its entire range. “*The tigers of Indochina have been particularly hard hit by both illegal killing for traditional Chinese medicine as well as by loss of their forest home,*” said Kemf. “*Cambodia has presold two-thirds of its remaining forests to 30 logging concessions and tigers are being killed there at a rate of two or three per month,*” Kempf added. As of March 1996, Vietnamese officials reported that two tigers were killed illegally in Vietnam. In Laos, hydroelectric power generation schemes have been planned for each of the areas where tigers roam, which are likely to destroy some of the last strongholds of the Indochinese tiger.

According to the report in 1995, Indonesian authorities stated that poaching of Sumatran tigers was virtually “*uncontrollable*”, and that Nepal carried out nine seizures of tiger parts, most of them complete skeletons. Three of the eight subspecies of tiger—the

Caspian, Javan and Bali tigers—have become extinct in the last 50 years. Of the five remaining subspecies, those most at risk are believed to be the South China tiger, of which less than 50 remain in the wild, and the Siberian tiger, whose numbers halved during the '90s from about 400 to 200.

India, which holds nearly two thirds of the world's tigers, continues to battle against poachers. In 1995, contraband tiger bones and skins seized were estimated to account for 73 tigers. “*If that number is assumed to be the tip of the iceberg, then between 300 and 400 tigers might have been lost out of a possible total of less than 3,000,*” said Peter Jackson. “*Between January and April this year, Indian authorities seized 14 tiger skins, as well as 6 kilos of bones.*”

The release says that an Indian official of the Centre for Environmental Law has declared that more than 40 national parks and sanctuaries face invasion by commercial interests. “*Whoever forms the new government must act urgently and firmly to prevent the loss of India's extraordinary natural heritage*”, added Jackson.

Although the transboundary trade in tiger parts is prohibited by CITES to which all important range countries have acceded except Cambodia, Laos and Myanmar, reports from range countries showed that poaching of tigers is still a major threat to the big cat. A number of CITES member nations have begun work with traditional Chinese medicine communities to develop strategies for suspending or eliminating the use of tiger parts and derivatives. The species status report will be published in Chinese and distributed wherever Chinese speaking communities live.

♦ **The Western Ghats Information Network** (WGNI) is starting a natural history newsletter, ‘**Western Ghats Alive**’, which will gather and disseminate news and information relevant to the flora, fauna and landscape of the Western Ghats and to the people involved and concerned in its study and conservation. As with Tiger Link, their aim is to bring people together, keep them in touch and help them improve their capacity to make a difference to their environment. They are interested in publishing anything specifically related to that area and in hearing from anyone who would like to contribute. Please contact Kumaran Sathasivam or Andrew Robertson at WGNI, 29 Jadamuni Koil Street, Madurai 625 001, Tamil Nadu.

Sri Ganesh Das, Principal, Barpeta Vidyaprith is an old crusader of wildlife interests, especially in Manas Tiger Reserve. He is a prolific writer and does his best to bring about public awareness on wildlife conservation issues through the local media. He has given all help to Tiger Link initiatives in Assam.

♦ A critique has been prepared of the IDA/GEF funded **eco-development plan** for **Nagarahole National Park** in which the author alleges that the plan does not respect the rights of local tribals living inside the park. This has been discussed with GEF and World Bank members and met with a ‘positive’ response. A copy of the critique and further details are available from the author, Anita Cheria, c/o BCO, 658, 45th Cross, II‘A’ Main, V Block, Jayanagar, Bangalore 560 041. Tel: (080) 663 5622; Fax: 663 3538; Email: admin@bco.frlht.ernet.in
(Source: JPAM Update No.9, May 1996)

♦ **The Andhra Pradesh State Office of WWF-India** have recently published *Sacred and Protected Groves of Andhra Pradesh*. This interesting 96 page booklet is “*an effort not only to document the sacred and protected groves of A.P. but also to look broadly at measures to conserve them and restore such of them which had lost some of their pristine glory to their earlier state*”. Some of the sacred groves contain small populations of tigers! The report is available for Rs 200 from the A.P. State Office, View Towers, Lakdikapool, Hyderabad 500 004.

Cat Action Plan

Wild Cats: Status Survey and Conservation Action Plan, the result of the collaboration of members of the **Cat Specialist Group (CSG)** and many other experts, has now been published by the World Conservation Union (IUCN). **Compiled and edited by Kristin Nowell and Peter Jackson**, this 382-page work contains data and distribution maps for all 36 species of wild cat. Habitat issues, management, research, trade, captive breeding, reintroduction, problems of disease, taxonomy and genetics are all discussed; 105 projects are listed as priorities for cat conservation in the 1990s. Tiger (with snow leopard) falls in category 2 on a 1-5 scale as seriously threatened.

All members of the CSG and those who contributed data will receive free copies and, thanks to generous grants from WWF-International and WWF-Netherlands, it will also be provided free to wildlife institutions in 'Third World' countries. Priced at US \$40/£ 26.75 for everyone else it is available from IUCN Publications Service Unit, 219C Huntingdon Road, Cambridge CB3 0DL, U.K. Tel:(1223) 277894 Fax:(1223) 277175 or Island Press, Box 7, Covelo CA 95428, USA. Tel: (800) 828 1302 (toll free in USA) (707) 9836432 (outside USA & Canada) Fax: (707)9836414.

Ranthambhore Foundation's **The Tiger File - II**, the second selection of newspaper clippings on the tiger crisis, is now out; 190 pages covering the period September 1995 to March 1996. Please contact the Foundation office.

Wildlife Films

◆ In the last six months BBC film units are busy filming "*In the Land of the Tiger*". Actual tiger footage includes an attack by a tiger on a wild buffalo in Kaziranga and a series of events in the life of the tigers of Bandhavgarh and Kanha. In 'tigerland', a wolf of Bandhavgarh feeding on a kill has also been filmed. The 6 hour series will be shown at the end of 1997 during India's 50th year of independence.

◆ Shekhar Dattatri is in the process of completing a detailed in-depth film on **Nagarhole** that includes footage of a large tiger feeding on a gaur.

◆ Ashish Chandola is busy filming the wonders of **Kaziranga** after his intensive effort on "*The Tigers Next Door*" a documentary about Bandhavgarh and its tigers.

◆ The **National Geographic Magazine** is planning to do a major story on tigers in 1998 to coincide with the *Year of the Tiger*. Nick Nichols is presently photographing for this tiger story mainly in Madhya Pradesh. After the magazine petitioned for help from the then Ambassador to the U.S.A., Shri Siddhartha S. Ray, he has been given special access and permissions for photography across the forests of M.P.

◆ *Protected Areas, Forest Dwellers and Ecodevelopment* is a paper which looks at the World Bank Ecodevelopment initiatives and 'combs it for bugs'. The author, Dr Vikram Soni writes, "*there is so little prime forest now (and so many people) that if we do not watch out, the debate may continue even as the forest is gone*". He questions the viability for park preservation of such a programme and suggests that there is a need to change the whole outlook to conservation programmes around parks.

For copies of the paper write to: Dr Vikram Soni, U.G.C. Professor, Theory Group, National Physical Laboratory, Dr K.S. Krishnan Road, New Delhi 110 012.

New Books

◆ *The Tigers of Trengganu* by **A. Locke**, Monograph No.23, Malaysian Branch of the Royal Asiatic Society, Kuala Lumpur, Malaysia (ISBN 967-9948-05-6). This 1954 book has been republished as a monograph and is one of very few books about the tigers of south-east Asia. Peter Jackson, Chairman, Cat Specialist Group describes it as "a Malaysian classic"

◆ *Spell of the Tiger—The Man-eaters of Sundarbans* by **Sy Montgomery**, 1995, Houghton Mifflin Co., New York (ISBN 0-395-64169-1)

◆ *Of Tigers and Men: Entering the Age of Extinction* by **Richard Ives**, Nan A. Talese/Doubleday (ISBN 0-385-47816-X)

◆ *Fight for the Tiger* by **Michael Day**, Headline, London (ISBN 0-7472-1548-0)

◆ *In Danger*, ed. by **Paola Manfredi**, photos by **J. Van Gruisen**, Publ. by **Ranthambhore Foundation**, in press.

If the tiger goes extinct at the end of the century so will the Indian forest and countless species of living organisms. *In Danger* is a book about endangered habitats and species and their relationship to people. Over the centuries, the people of India have been deeply entangled with nature and within this book some of India's leading wildlife biologists and scholars relate vivid details about species as varied as the great Indian bustard and wild dog, about habitats from the snow lines of the Himalaya to the beaches of Orissa. It also gives a brief note on the history of forest and settlement, man and animal, people and protected areas.

With this book the **Ranthambhore Foundation** is trying to bridge some of the widening gaps that exist between man and nature, people and protected areas. Contact: Ranthambhore Foundation for copies of the book.

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Chris Lowrey, a wildlife biology undergraduate at Humboldt State University in California, is interested in volunteering for a wildlife biologist working with tigers in India.

Please contact him through email:
cel2@axe.humboldt.edu

**All those not already on the mailing list who wish to become participants in Tiger Link and receive copies of the newsletter, please send your name and address to:
Tiger Link, c/o 19, Kautilya Marg, New Delhi 110021**

We apologise for the delay in producing this issue which has thereby become a 'double issue'. We suggest that a six month interval may be more appropriate and hope to bring out the next issue in December 1996. Please keep the information flowing.



Tiger Link News is for private circulation, only to Tiger Link Participants. It includes information that has come from participants and therefore represents the views of the participants. For any further details please write to the participants directly. We regret if any errors have been committed in the compilation of this document. We thank Save the Tiger Fund, which is a special project of the National Fish and Wildlife Foundation created in partnership with Exxon Corporation, for providing financial support for this publication. We also thank Care for the Wild, The Wildlife Conservation Society and Geoff Ward for their ongoing support in the cause of tiger conservation and their help in facilitating the networking of TIGER LINK.

Produced by Tiger Link Participants, Joanna Van Gruisen and Paola Manfredi and sponsored by the Ranthambhore Foundation.