

Kanpur Zoological Park -- a Zoo in a Forest

Prathiba Singh*

The Kanpur Zoological Park is situated within Nagar nigam limits of the city of Kanpur. It was constructed during the span of years from 1968-1974.

An area covering 300.19 acres was acquired as ravine land in the year 1913-14 by the State Forest department at the instance of and recommendation of Sir George Berney Allen a noted industrialist of Kanpur at that time and afforested during the years 1913-1918. It acted as a timber producing forest upto 1943 after which it acted as a recreation park for city dwellers. To preserve this forest from the burden of expansion of city dwellers the State Government in 1968 decided to utilize it as a Zoological Park. Thus an area of 184 acres from Allen forest, encompassing a lake of 40 acres, the zoological park was created. The Zoological Park was opened to the public on the fourth day of February 1974.

Though enclosures, buildings and roads are constructed in the Zoological Park premises, still a vast untouched area exists. A number of free ranging animals exist - Rhesus Monkeys, Hanuman Langurs, Common Civets, hares porcupines, squirrels, bats, mongooses, lizards, snakes, Pythons, Peafowls, Owls, etc. Old reports mention the existence of 25-30 Blue Bulls, which do not exist presently. Old reports also mention the existence of 10 spotted deer, which are presently more than 100 in number.

Vegetation of Kanpur Zoological Park
The area was planted as early as the second decade of the 20th century. Ornamental trees were also added later. A number of hedge plants were planted. Bamboos were planted along and in many enclosures.

Visitation

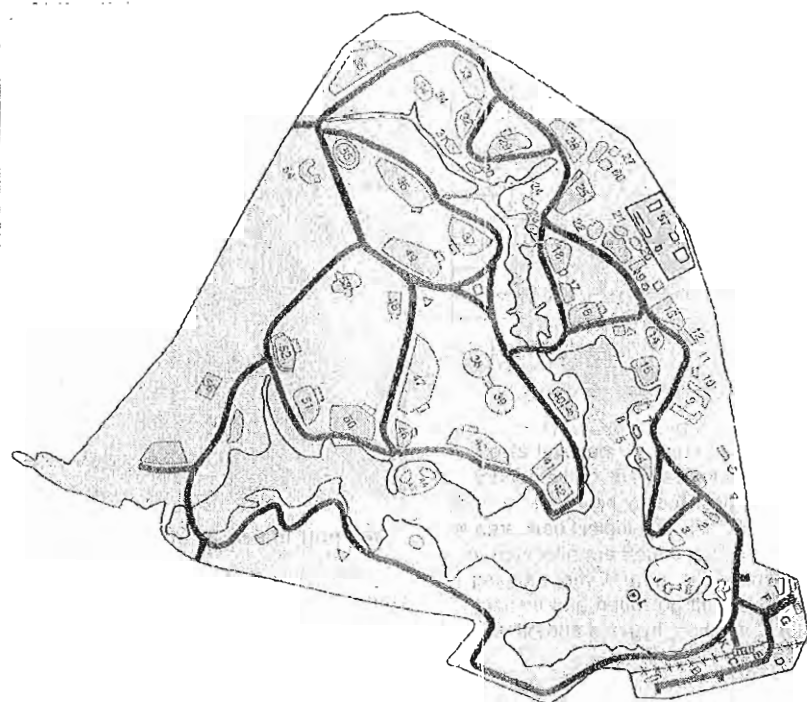
The Zoological Park is open for 315 days in the year. It remained closed for visitors every Monday.

Entry fees are as follows-

Adults	Rs.10 per head
Subadults (5-12 years)	Rs.2 per head
Educational institutions (in groups)	Rs.2
Cars	Rs. 50 per vehicle
Matador	Rs.250 per vehicle
Bus	Rs.500 per vehicle

About 3,72,452 visitors visited the park in 2000-2001. The number of vehicles visiting the park was 2877 out of which 2829 were cars. Two wheelers are not allowed into the Zoological Park for visitor safety.

The list of unpaired animals shows those animals which are needed urgently. Required list are those animals which the zoo does not have at present but would like



to exhibit and breed over a period of time. Surplus list are those animals which can be offered in exchange to other zoos.

UNPAIRED, REQUIRED AND SURPLUS ANIMALS

Unpaired Animals	Required Animals	Surplus Animals
Golden Langur - 1:0	Nilgiri Langur - 1:1	Chital - 20:20
Capped Langur - 1:1	Sulphur-crested Cockatoo - 1:1	Bonnet Monkey 3:0
Common Otter - 0:2	Ostrich 1:1	Hippopotamus - 1:1
Japanese Monkey 1:0	Emu - 1:1	Rhesus Monkey - 5:5
Lion tailed Monkey - 1:0	Macaw - 1:1	Hanuman Langur - 2:2
Chinkara - 1:0	Grey Kangaroo - 1:1	Indian Jackal - 2:2
Jungle Cat - 0:1	Mouse Deer - 1:1	Sambhar - 1:1
Indian Fox - 2:0	Hoolock Gibbon - 1:1	Hog deer - 0:2
Hill Fox - 0:2	Orangutan - 0:1	Black Buck - 1:3
Asiatic Lion - 1:0	Chimpanzee - 0:1	Land Monitor lizard
Black Panther - 1:0	Assamese Macaque - 1:2	Common civet
Kinkajou - 0:1	Pig-tailed Macaque - 1:2	Kalij Pheasants
Bare-eyed Cockatoo - 0:1	Fishing Cat - 1:1	Himalayan Black Bear - 0
White cockatoo - 0:1	Jaguar - 1:1	Crocodile - Mugger
Flamingo - 0:1	Wild Dog - 1:1	
Ring-necked Pheasant - 1:0	Wolf - 1:1	
	Sloth Bear - 1:0	

TABLE OF BIRTH RATE & MORTALITY - 2000-2001

	Mammals	Birds	Reptiles	Total
Stock as on 1 April 2000	247	160	22	429
Number of Births	36	3	17	56
Birth rate	14.6	1.9	77.3	13.1
Number of Deaths	23	15	1	39
Death rate	9.3	9.4	4.5	9.1

Veterinary Services

* Director, Allen Forest (Kanpur) Zoo,
Kanpur, U. P.

Mortality		
Disease	No. of Animals	%
Tuberculosis	5	13
Diarrhoea (Bacillary)	5	13
Hepatitis	2	5
Injury	15	38
Old age	2	5
Septicemia & Toxemia	4	10
Heart affections	1	3
Cold & Pneumonia	3	8
Tympanitis	1	3
Heat Stroke	0	0
Tetanus	0	0
Drowning	1	3
TOTAL	39	100

A well-equipped veterinary hospital also exists in the zoological park. A veterinary doctor who is assisted by helpers to render care to animals. The zoological park area is roughly delimited and staff are allocated to their enclosures and area. Every morning the respective staff go round and inspect the health, sanitation, hygiene and other health aspects.

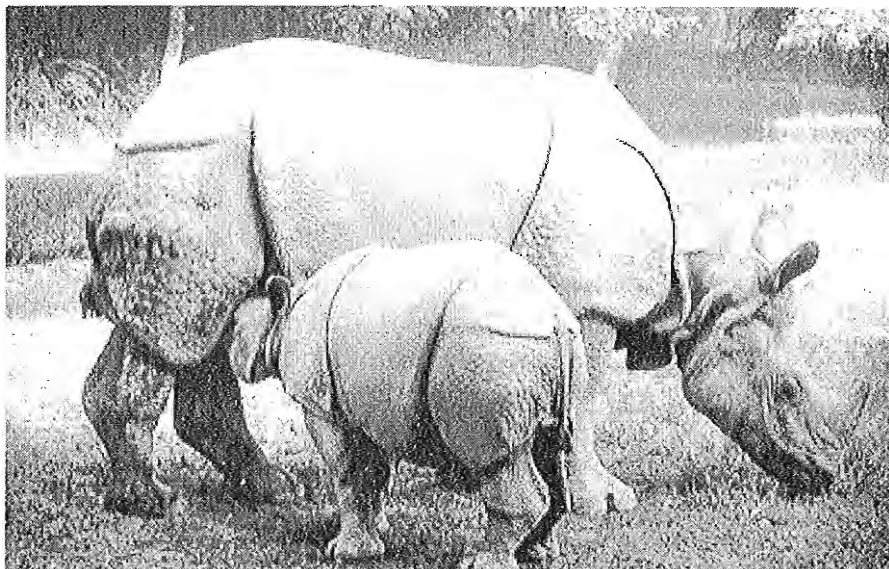
Animal Nutrition

Feed items in the feed store are checked by the veterinary officer and the store in-charge for quality and quantity every morning as per the feed schedule. They are sent for distribution to the animals only after a thorough disinfection and weighing. Care is taken to provide a balanced diet for all animals and special diet is given to sick animals who are under treatment. Special care is taken for breeding animals, lactating mothers and abandoned infants. Optimal nutrition is the best prophylactic against diseases in captive animals. Hence nutritious food is fortified with vitamins and minerals is used regularly. In addition preventive measures are also undertaken.

- 1- Monitoring of behaviour of animals for detection of illness
- 2- Cleaning of animal enclosures
- 3- Disposal of faecal residues
- 4- Carcasses by burying carcasses after PM.
- 5- Quality and quantity of feed inspected.
- 6- Periodical checking of faecal samples
- 8- Cleaning of water pools.
- 9- Cyclic weed removal from enclosures.

The overall birth rate was 13.1% and the mortality rate was 9.1%. The primary causes of death are as given below in the table. Majority of the deaths were caused by injuries the causes of which were-

- 1) Fighting with conspecifics
- 2) Snakebite
- 3) Stray monkey (Rhesus) attacks
- 4) Stray Dog attacks.



Breeding Indian Rhinos has been one of the great achievements of Kanpur Zoo.

General affairs and activities

Anti polythene campaigns were vigorously taken up in the Zoological Park. The Zoo friends club, Ratan rovers crew-Scouts helped us in the campaign.

Wildlife Week was celebrated with vigor and sports activities, Debates, Quiz, Drawing, Essay writing, and cultural programmes were organised in the week. A total of 27 schools participated with 644 participants. Seth Motilal Khedia School Vishnupuri, Kanpur participated most actively. The most popular event of course was drawing in which 369 children participated. The Chief Guest for the prize distribution on 7-10-2000 was Shri.K. Prasad, PCCF, Research and Training.

Budget Allotment & Expenditure to Kanpur Zoological Park 2000-2001		
Non Plan		
Budget Head	Allotment	Expenditure
02 – Mazdoori	200000	33448
04 – TA	31000	31000
05 – TTA	9000	9000
08 – Office Expenses	24000	24000
09 – Electricity	291000	290655
10 – Water Tax	50000	50000
11 – Stationery	14000	14000
12 – Office furniture & instruments	0	0
13 – Telephone	9000	8424
15 – motor Vehicles maintenance	48000	47993
	676000	508520
070 – Sanchar & Bhavan	160000	159999.15
101 – Vano ki Suraksha	80000	79999.4
102 – Prani udyan ka vikas/Development	1800000	1800000.2
		2039998.75
CZA	750000	
World bank	318000	
UP Van nigam	500000	
	1568000	
Salaries		
01 – Salaries		4764527
03 – DA		1920110
06 – other expenses		549237
Total		7233874
GRAND TOTAL		11350393

Primary tree species at Kanpur Zoo

1. *Holoptelia integrifolia* (Chilbil)
2. *Syzgium cumini* (Jamun)
3. *Balanitis aegyptiaca*
4. *Prosopis juliflora* (Babool)
5. *Azadirachta indica* (Neem)
6. *Dalbergia sissoo* (shisham)
7. *Cassia siamea*
8. *Ficus religiosa* (Pipal)
9. *Feronia limonia* (Kaitha)
10. *Pithecolobium dulce*
11. *Tamarindus indica* (imli)
12. *Tectona grandis*
13. *Acacia auriculiformis*
14. *Phoenix sylvestris*
15. *Aegle marmelos* (bel)
16. *Ailanthus excelsa*
17. *Albizia lebbbeck* (Siris)
18. *Albizia procera* (sirris)
19. *Alistonia scholaris*
20. *Anthocephalus chinensis*
21. *Callistemon viminalis* (Bottle brush)
22. *Pongamia pinnata*
23. *Terminalia arjuna* (arjun)
24. *Lagerstromia indica*
25. *Mitryagyna parvifolia* (Kadam)
26. *Mimusops hexandra* (Khirni)
27. *Ficus glomerata* (Guler)
28. *Ficus lacour* (Pakad)
29. *Ficus bengalensis* (Bargad)
30. *Pisidium guajava* (Amrud)
31. *Embllica officinalis* (Amla)
32. *Artocarpus heterophyllus* (Kathal)
33. *Putranjiva roxburghii* (Patuj)
34. *Morus alba* (shatoot)
35. *Bombax ceiba* (Semal)
36. *Nyctanthes arbortristis* (Harshringar)

MAIN SHRUB SPECIES

1. *Dodonea viscosa*
2. *Bougainvillea spectabilis*
3. *Clerodendron infortunatum*
4. *Hibiscus rosasinensis*
5. *Lantana camara*
6. *Calotropis procera* (Madar)
7. *Nerium odoratum* (Kaner)
8. *Thevetia nerifolia* (Pila kaner)

MAIN GRASS SPECIES

1. *Cynodon dactylon*
2. *Saccharum munja*



Lion lying around in its spacious naturalistic enclosure at Kanpur Zoo.



Zookeeper Training Course for Northern Region

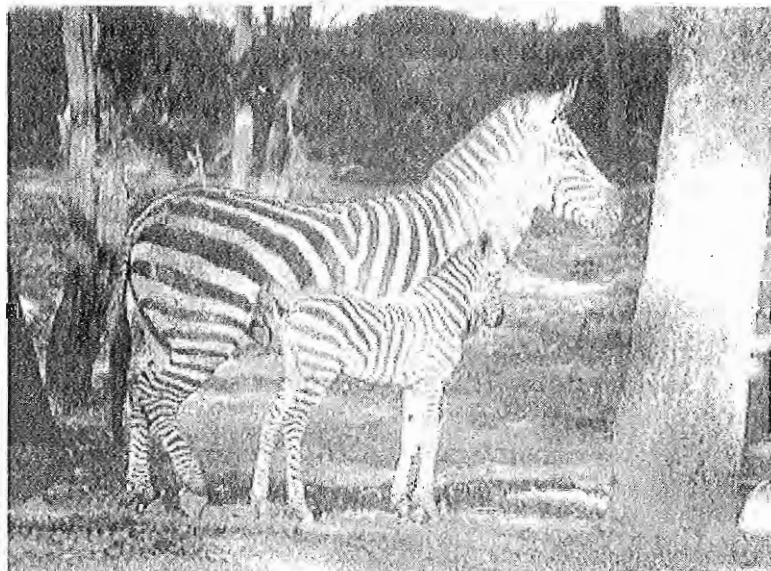
Zoo keepers Training, Northern Region- A zookeepers training was organised from 1st to 11th February 2001 with the kind help of Central Zoo Authority. 23 participants from 13 zoo's located in Delhi, Uttar Pradesh, Bihar, Jharkand, West Bengal, and Haryana participated. A lady keeper from Central Zoo Kathmandu also participated. Field trips included the Lucknow zoo, Nawabganj Bird sanctuary, Unnao, Kukrail, Dudhwa National Park.

Students of Mathura veterinary college visited the Zoo for exposure on wildlife. Bird Boxes were put up on various trees (15) in the Zoological park at the insistence of Bird lover visitors to the Zoo like Shri Neeraj Mishra and Shri. Bajpai. Their efforts have borne fruit.

Two watchtowers were put up in the zoo alongside the lake.

Kanpur Mahotsav- The zoological park participated in the Kanpur mahotsav and put up a very attractive stall along with the social forestry division of Kanpur.

Staff Position in Kanpur Zoological Park 2000-2001		
Post	Sanctioned	Actual
Director	1	1
Veterinary Officer	1	1
Forest Ranger	2	2
Forester	4	1
Clerks	8	5
Draftman	1	1
Security Officer	1	0
Horticulture Inspector	1	0
Veterinary help	1	0
Driver	1	1
Zoo Guards	4	5
Tube well operator	2	2
Electrician	1	1
Booking Clerks	3	3
Ticket checker	2	2
Mahawat	2	2
Carpenter/ironsmith	1	1
Mason	1	1
Cook	2	2
Food Distributor	2	2
Orderly	3	3
Gardener	10	9
Chowkidar	19	18
Headkeeper	1	1
Keeper	12	12
Sweepers	12	12
Emergency Sweeper	1	1
TOTAL	99	89



Zebras are one of the very popular animals at Kanpur Zoo.

Note on a Suspected Case of Tetanus in Hyena

Pratiba Singh* and Rajiv Tripathi**

There are 7 families in the Order Carnivora in which hyena belongs to Family Hyaenidae. Some common traits are dentition has elongate canine teeth; lack of clavicle permits freedom of movement of the forelimb; short intestinal tract for rapid digestion and all species have anal glands.

The Hyaenidae family has 4 members: Arid wolf (*Proteles cristatus*); Spotted hyena (*Crocuta crocuta*); Striped hyena (*Hyaena hyaena*) and Brown hyena (*Hyaena brunnea*). Of these, only the Striped hyena is found in India

A pair of striped hyenas are held by the Kanpur Zoological Park. The animal has a dog-like build with massive head and forebody, weak hindquarters and a heavy dorsal crest of long hairs, sharply defined from rest of the coat. Transverse stripes on the body and limbs usually are well defined but less so in the full winter coat. The jaws and teeth are very powerful. Scent glands are present in the anal region. The diploid chromosome number is 40 for the entire family. They are nocturnal and spend the days in burrows. They are good swimmers but not good jumpers. Little is known of the mating habits of these quite common animals. Mating time is said to be in the cold weather. The young are born during the hot season gestation period is about 90 days and litter size is 1-4 pups. The nursery selected is the accustomed cave or hole. Like most carnivores the young ones are born with their eyes closed. The average life span is 24 years.

On 20 March 2001 in Kanpur Zoological Park the keeper reported that the female hyena had given birth to three babies. The whole zoo staff was full of enthusiasm for the three new animals which were lying in their den in the enclosure. As the mother and pups were in a deep den, it was a real challenge to the vet and the zoo staff to obtain necessary clinical information about them. With great efforts of zoo staff all three pups were observed for their well-being.

Out of the three pups one died on 31 March 2001. The post-mortem examination revealed that there were deep external injuries caused mainly by the teeth of mother during shifting of her baby from one place to another. On 2 May 2001 the second cub showed signs of illness as partial anorexia with swinging gait. On 17 May 2001, there was paraplegia of hindquarters. The baby left its mother's milk. It could not walk on all limbs. After walking one or two steps he fell down and again with great effort stood up only to repeat the act. The condition of this pup was deteriorating day by day.

On 4 June, both the babies were captured and treatment was started. The clinical examination of both showed temperature 104° F with increased respiratory rate, purulent nasal discharge bilaterally. Antibiotics (Ampicillin+Cloxacillin) Antihistamines, steroids, analgesics and multivitamins B1+B12+B6 were and on 7 June, the temperature came down to 100 degree F.

Out of these two cubs, one showed the signs of complete paralysis of hindquarters. Clinical examination done on 8th June revealed a dehydration of +++ level. The abdominal skin had lost its turgidity. Dextrose 5% along with Inj conciplex 1 ml was given as infusion as well as antibiotics (Ampicillin+Cloxacillin), Inj. Candistin, Antihistamine and Inj. Curadex 1 ml.

The other cub responded to the treatment and become better. The sick cub was shifted elsewhere to enable 24 hours close observation and to facilitate feeding by hand. The condition of the sick cub continued to deteriorate. There were spasms of the facial muscles which led to abnormal expressions and erect carriage of the ear (*Rishes sardonius*). There was wrinkling of the skin of the

forehead, there was tetanus symptom (lockjaw), increased salivation. On auscultation, there was altered heart and respiratory rates.

On 14th June the cub could not be force-fed, perhaps due to paralysis of muscles of the oesophageal region. The cub was hypersensitive to light stimuli so was kept in a dark place. On 20th June, the cub stopped passing urine and faeces. Its appearance was like that of a "saw horse" with all limbs stiff. There was complete lockjaw symptoms. On 24th June there was take contraction of all muscles with opisthotonus and on 26th June the cub died due to respiratory dysfunction. During post-mortem examination, scars of healed wound was observed on second and fifth rib on both sides.

Tetanus was suspected and the samples were sent to IVRI for confirmation of our suspicions, however, unfortunately, no diagnosis could be made from the samples. Tetanus can be identified only in fresh specimen of flesh but unfortunately, by the time it could reach Bareilly it was more than 2 days old.

Tetanus - from literature

Tetanus is caused by the action of a potent neurotoxin formed in the body by *Clostridium tetani*, a mobile, gram +ve noncapsulated anaerobic, spore-forming bacillus. Resistant spores of the organism can be found in the environment, especially in humus rich soil. The *Clostridium tetani* is a normal inhabitant of the intestinal tract of herbivorous animals. Tetanus is usually sequel of wounds, often insignificant ones such as nail pricks or those produced by castration, docking or shearing or even during parturition. The anaerobic environment of certain wounds allows germination of the spores, multiplication of the organism, and release of exotoxin. The exotoxin is not histolytic and probably does not contribute to local tissue destruction. The toxin is a neurotoxin, which becomes fixed to the grey matter of central nervous system where it diminishes or abolishes synaptic inhibition.

The disease is characterized by prolonged spasmodic contraction of muscle, with extension of limbs, stiffness & immobilization. The entire musculature is eventually involved and death follows. Diagnosis is based in clinical signs and history of trauma, however a wound is not often demonstrable and if present, the bacilli are difficult to demonstrate. Clinical sign of tetanus usually occur of toxins as compared to other species. Wounds near the head is associated with the rapid onset and generalized signs. The prognosis for severely effected animals is extremely guarded and many die because of complication associated with cardiovascular dysfunction, uncontrollable muscles spasm and respiratory dysfunction due to paralysis of entire musculature.

References

- 1) Fowler E. Murray (1986), Zoo and Wild Animal Medicine, 2nd Edition, W. B. Saunders Company, Philadelphia, 1127 pp.
- 2) Prater S. H. (1997), The Book Of Indian animals, 10th Impression, Bombay Natural history society, Oxford University Press, Chennai, 324 pp.
- 3) Ettinger J. Stephen, Edward C. Feldman (1995), Text Book of Veterinary Internal Medicine, diseases of the Dogs & Cats, 4th Edition, Volume I, W. B. Saunders Company, Philadelphia, 1081 pp.

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Pratiba Singh*

30-09-2001

A drawing competition was organized for the children of the Forest department staff. 48 children participated in this event.

01.10.2001

Three events were organized on this day the three-legged race, frog race and sack race. Children enthusiastically participated in all events. 98 children from 10 schools participated in the events. The function was inaugurated by Dr. Ashwini Kumar, Conservator of forests. Research & Training. Shri R.S. Shukla, Conservator Kanpur. All Forest Officers of Kanpur were present at the inauguration. A slide show



A jungle scene section during Wildlife Week at Kanpur zoo.

Pratiba Singh, Director

Kanpur Zoo declared Indian bears to be the focus of some of their Wildlife Week Programmes. Bear bags from Z.O.O./I.B.F. were distributed to students from various schools who visited the zoological park.

The children were accompanied by the zoo director to the Himalayan Bear and Sloth Bear enclosures and given a talk about these bears at the enclosure itself. They were made aware of poaching problems, habitat destruction, and types of bears in the world.

We are grateful to Z.O.O. and particularly the International Bear Foundation for sponsoring these materials and encouraging people to Care for Bears !



Ninety-six Kanpur school students with their bear bags from ZOO and IBF.



Kanpur school students wearing masks of different species of Indian bears

* I.F.S., Director, Kanpur Zoological Park, Kanpur

Saturday, September 22, 2001: Haidhofen Trench, Cape

Bear with zoo

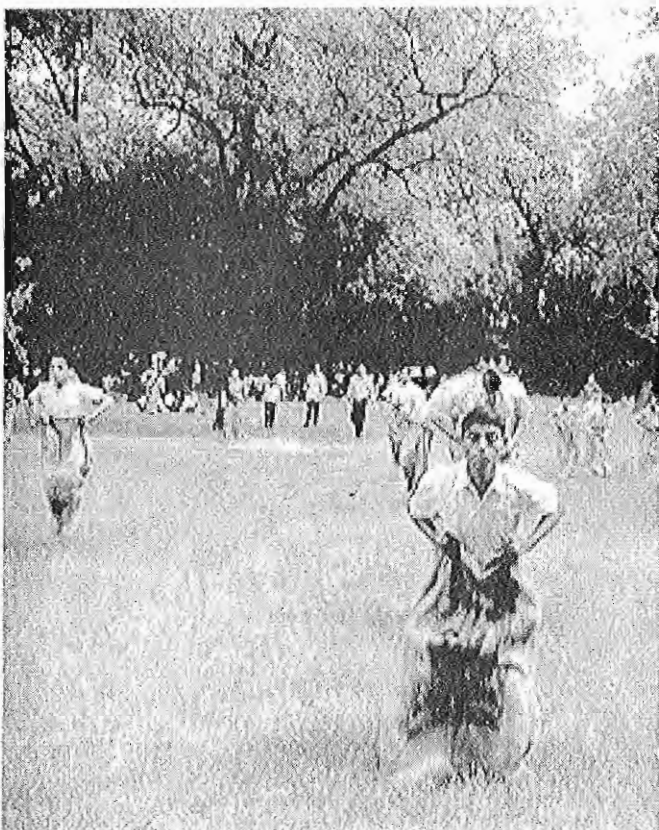
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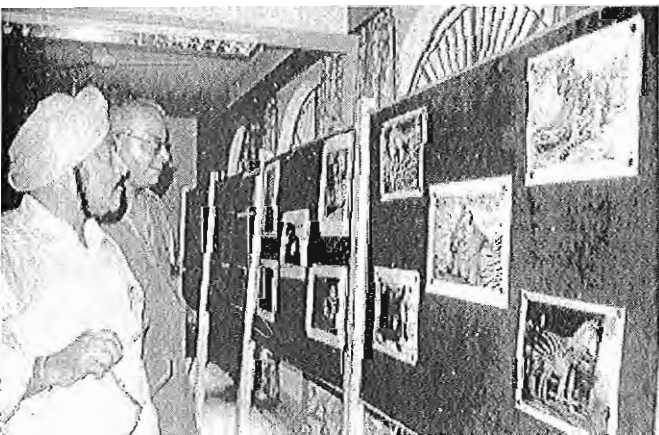
people, so there had to be some kind of compromise. The compromise was that the first 100,000 people would be treated as "normal" and the rest as "abnormal." This was a very good idea, because it was a compromise between the two groups. The first 100,000 people were treated as "normal" and the rest as "abnormal." This was a very good idea, because it was a compromise between the two groups.



Mayur Dance at Kanpur zoo



Sack race during Wildlife Week at Kanpur zoo



Wildlife Week Photo exhibition

was organized on "Elephants" by Dr. M.A. Khalid of TERI. The slide show was appreciated and enjoyed by all the children and teachers.

More than 102 students from 12 schools participated in the essay writing competition. The topics were- Class 1 to IV - "My favourite wild animal"; Class V to VIII - "A day in the zoo"; Class IX to XII - "Are zoos necessary?" Good essays were written by the children in both Hindi and English.

The Rotary Club of Kanpur also organized an essay and poster competition in the zoological park the topic for which was "How does helping others make the world a better place" Over 60 children participated in the the Essay and poster competition. On 02.10.2001, Shri Alok Tiwari from "People for animals" also visited the park. The NGO Kindly donated caps for zoo staff and some students who helped in picking up polythene in the zoo premises. Mr. Sashikant Khandekar, state level cricket player was also present on the occasion.

Ninty-four students from 18 schools participated in the quiz competition exclusively on wildlife. The most active participation on this day was from class I to IV age group who surprised the zoo director also with their keen knowledge on wildlife and asked for more and more rounds.

A drawing competition was organized on 04.10.2001. More than 25 schools participated with over 225 students. Since a number of participants, turn up for this event every year a restriction was put this year to send only 5 entries from each category from each school. Mr. P.S. Munzal and Smt. Mallika Shukla were the judges for the occasion. The drawings of all children were highly appreciated by the judges.

On 05-10-2001, 57 students took part in debate on "Polythene-a necessity for life or danger for the environment?"; "Forests/wildlife protection is a hindrance to development" and "Zoological gardens/zoos places of entertainment or educational centers"

Cultural events were organized on 06.10.2001, which included Drama, group dance, group song and monoacting. The topic was on wildlife conservation. For the group song no film songs were allowed. All songs were composed based on forests and wildlife only. The dance competition also gave preference to wildlife themes. No cassettes were played on taperecorders. All dancers were accompanied by musical instruments being played by students themselves. It was a colorful day. The judges on the occasion were Smt. Mallika Shukla, Mrs. Abha Singh & Mrs. Ashwini Kumar. Five teams participated in the group dance, 8 teams in the play, 11 teams in the group song & 10 participants in monoacting. A total of 250 students from 25 schools made the event colourful. Due to large participation & lack of time, each school was allowed to participate only in 2 events on this day.

In the evening, a colourful slide show was organized by Rishi Bajpai, D. Swaroop, Niraj Mishra & Dr. Ashwini Kumar.

On the last day, the prize distribution function was organized in the zoo. Dr. R.L. Singh, Chief Wildlife Warden of Uttar Pradesh was the Chief guest of the occasion and gave away prizes to all participated.

Our sponsors for wildlife week were : 1. Pepsi India, 2. Rotomac pens, 3. L.I.C., 4. Parag Dairy, 5. Super Leather House Shri Vinay Saman, 6. People for Animals.

The Director Kanpur Zoological thanked the above sponsors with whose help attractive prizes of books, pen sets, pencil boxes caps etc. were awarded to all prize winners. The Chief Wildlife Warden of U.P. Dr. R.L. Singh was also presented with the Annual Report - 2000-2001, of Kanpur Zoological Park by the zoo director.