

SANJAY GANDHI BIOLOGICAL PARK, PATNA.

WORKSHOP ON CONSERVATION, EDUCATION & ZOOS

Organised by Sanjay Gandhi Biological
Park, Patna in collaboration with Central
Zoo Authority of India, New Delhi.

Compiled by Mr. S. Samantharay

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COUNTRY CLUB
INTERNATIONAL
Pataliputra, Patna

6th to 9th April

2010

SANJAY GANDHI BIOLOGICAL PARK, PATNA-800001

07/11/20

OVERVIEW

Central Zoo Authority of India hosted a workshop on Conservation, Education and Zoos which was the first of its kind in Bihar and was designed to emphasize the importance of Zoos in Conservation of and Education related to wildlife. Wildlife is critically important for us and it is high time to conserve it. This workshop evolved important themes and recommendations through deliberations. During the four day long session participants presented twenty eight technical papers on topics ranging from Conservation to Biodiversity. The different topics which were covered were Education, Motivation, Teaching Methods, Training, Capacity Building, Environmental Education, Wildlife facts etc. The event drew over twenty eight participants. The workshop was inaugurated by Sri B.S. Bonal, Member Secretary, Central Zoo Authority. In his welcome address Sri Abhay Kumar, Director, Sanjay Gandhi Biological Park, Patna expressed his pleasure on wider participation from various zoos and organisations all across India and abroad.

This report provides a record of the primary themes and recommendations from each session.

KEY RESULTS

The workshop participants identified a number of common challenges faced by Zoo Educators, particularly convincing people on checking vandalism in Zoos.

INAUGURAL SESSION

This session was presided over by Sri B.S. Bonal, Member Secretary, CZA, and was inaugurated by Sri B.A. Khan, Chief Wildlife Warden of Bihar. Sri M.J. Mishra, CCF and Sri B.C. Nayak, CCF also spoke on the occasion.

In his welcome speech Sri Abhay Kumar, the Director of the Sanjay Gandhi Biological Park briefed the history of the Park and shared the Conservation & Education Programmes being run in this Park.

DAY-ONE

DATE- 06-04-2010

TECHNICAL SESSION- I

The first lecture was delivered by Sri B.S. Bonal, Member Secretary, CZA on the concept of "Conservation, Education and Zoos". He spoke about the role and functions of CZA too. Dr. Bitapi Sinha, Senior Scientist from the WII, Dehradun spoke in length about profiling Zoo Visitors. In a shift from the traditional classroom lecture to an interesting and interactive session she grouped the participants as below.

Expectations of Groups:

CAT

Learning animal behavior **(Mr. B. C. Choudhary & Mr. Pandey)**
Exchange of Experience, developing education material **(Mr. Gopal & Dr. Dilip Yardi)**
Learning from other's experience and implementing in Zoos
(Sri Abhay Kumar & Mr. Pradeep)
Knowledge for preparing zoo education plan **(Mr. P. Barua & Mr. Hemkant Rai)**
To learn, experience Captive Breeding of endangered species
(Sri Vishnu Kumar Gupta & Sri R. C. Pandey)

CROW

Action plan for education in zoos, sharing of knowledge, picking up some practical knowledge (Ms. Meena Nareshwar , **(Mr. S. K. Mahton & Ms May Lok)**)

COW

Use the ideas and experience of others in your own zoo, adopting ideas for developing Master Plan (Mr. R.K. Singh, Mr. Ramesh, Mr. Matryas)
Learning and Implementing **(Mr. Parshuram Patel and Mr. Naim Akhtar)**

DONKEY

Learning techniques on education, people will learn for conservation
(Mr. Riyaz Khan & Samantha Ray)

PARROT

Fund raising for education activities, Reducing vandalism in zoos, To teach the keepers to educate the visitors **(Mr. Ashwini and Mr. M B Kachela)**

COCK

Explore the possibilities of zoo education with green concept, new techniques to educate school children **(Mr.Jagdish Wagle and Mr.Harpal Singh)**

CUCKOO

Wish to learn more through interactive ways of education, sharing of knowledge.
(Dr. A K Bhowmik and Dr.Piyali)

Learning techniques for educating visitors, sharing of Knowledge.
(Dr. Kamraj and Dr. Manimozhi)

All the members of the group interacted further and laid emphasis on use of more interesting and attractive methods in conservation and education.

Ms. May Lok, Assistant Director of Education Department, Singapore Zoo spoke her experience on conservation and education at Singapore Zoo.

TECHNICAL SESSION- II

At the beginning of the Technical Session-II Dr. Bitapi Sinha, Senior Scientist from WII, Dehradun spoke on using zoo as a platform to interpret biodiversity; she also spoke about zoo signage and its interpretation. Dr. B C Choudhary spoke on vandalism by the visitors in zoos and the methods to check it. He also spoke about visitor's motivation and its characteristics. Ms May Lok, Assistant Director of Education Department, Singapore Zoo spoke on Human Resource Management, Public Relation and Marketing vis-à-vis Conservation and education. She also shared her experience on learning from visitors about conservation and education.

DAY-TWO

DATE- 07-04-2010

Today's theme was **Master Education Plan for Zoos of India.**

The session started with a discussion invited by Dr. Meena Nareshwar of CEE about orientation plan for environmental education and up keep of zoos. Ms Piyali Chatterjee from Alipore Zoo, Kolkata talked about Arunose Education Society which runs an orientation programme for conservation of wildlife. Mr. Vishnu Kumar Gupta from Jaipur zoo informed that they invite groups of students from different schools and educate them. They celebrate Birthday of zoo animals and encourage plantation. Participants from Tripura zoo said that they celebrate Wildlife week. They invite school children and make them aware of different aspects of the zoo management. They use to give messages and display wildlife scenario to the visitors before entering into the zoo. Some of the participants informed that they organize tiger safari, nature visit camps, slideshows, bird watching and birthday party in butterfly parks to educate the visitors as well as children of different age groups. Another group of participants opined that Teachers and Principals, NCC students and College students should be brought into the organization of Volunteers of Wildlife after training them on Wildlife Programme. Mr. S K Mahto of Tata Steel Zoological Park described how they organize bird watching; train NGOs and students. The most attractive part of their programme is to touch pet animals kept in the zoo to release the fear about animals. The other activities of the zoo are organizing residential camps in the garden and living in the zoo. Mr. Samantaray of Nandankanan Park reported that they provide learning material and reference maps to visitors. Ms Ashwini from Pune said that they organize children learning programme, monthly workshop (every second Saturday) on zoo management, summer camps and visitors awareness programme.

Ms Akanksha described that they are running safari for students of class 10-12 Std., half day camp, volunteer training successfully. Most of the participants suggested that organizing training camps and nature camps, celebrating birthday, running plantation drive and adoption policy, providing study material and displaying information regarding flora and fauna in attractive manner will educate the visitors and re-orient the attitude of public towards zoos. Animal Keepers play key role in providing information to the visitors about habitat, habits and behaviour of wild animals and maintenance of the zoo.

This discussion was followed by speech of the Director of the host zoo. He emphasized the importance of master education plan and improvement of zoological gardens accordingly. Application of knowledge flowing from such workshops within a timeframe is the most important thing. Involvement of people across all the sections of society and all age-groups is the key to any such action plan.

Ms Meena Nareshwar of CEE informed that the first master plan was developed by the CEE, however reorganization of zoo rules took place in 1992 and national zoo policy came in 1998. Master plan for zoo emphasizes the need of zoo education for visitors. Each zoo must have a well drawn up education plan for visitors as well as for masses. Master plan is a mission statement and every zoo must have written education policy and it must have components like giving education to visitors having different level of education in different ways. As per master education plan every zoo should have education centre and reference library. Zoo should have a framework to know how, why and what education policy to follow up these programmes like Conservation of Wildlife and awareness about Forest. Forest and living animals should be the most important part of these programmes. There shall be different education programmes for the zoo directors, curators, animal handlers and supportive staff to know the policies, guidelines, constraints of management of zoos. Therefore for a baseline study material required for each level of training programme shall be developed. Interaction with visitors is also essential. So the questionnaire containing interests of visiting zoo, ideas of improvement in zoo, major attractions of zoo, suitable month, date and time for visit, general ideas of visitors, their educational status, their frequency and duration of visit, purpose of visit etc. shall be a part of education plan of zoos. Interaction among visitors and zoo staff is integral component of education plan. Web survey can be important in getting feedback of visitors. Data pertaining to visitors shall preferable be collected at the time of booking of ticket. Surveys shall mostly be conducted in holidays or winters. Some recreational activities and celebrations motivate the visitors. Zoo authority should keep a strict vigil on vandalism. There should be ample provisions of the public amenities. There should be environmentally friendly regulations like ban on plastic bottles, pouch and polythene in zoo premises.

by referring that since zoo is a valuable educational and cultural resource, so emphasized zoo plan is necessary.

Suggestions: Gujrat's zoos provide eco-friendly bags at minimum price to carry the belongings inside instead of plythene bags.

Education by capacity building may form a network for sustaining education programme for visitors.

For zoo personnel, regional workshop should be organized. It will provide good forum and networking, recommendation, guideline, examples and relevant proposals for zoo development.

For whom who does not come to zoo mobile, website and newspaper could be medium for education.

The second talk was delivered by Ms. May Lok of the Singapore Wildlife Reserve on **LEARNING PROGRAMME COMES ALIVE**. Best living classrooms in Singapore based on theme: when and why visit zoo and to know about animals. As primary school children are given less priorities to take education in lessons related to wildlife as their educational curriculum measure based on language and mathematics. But the idea of school education should be changed by repositioning WILDLIFE RESERVES as living classrooms. These are the choice venue for learning where children are educated about care, protection and conservation of wildlife as projecting animals and wildlife role models. It can be multidisciplinary learning, being resource and guideline for teachers to educate people about wildlife changes and implementation of plan. Zoo trail should be conducted for school children. Animals can be used as a platform to learn mother language by relating them to sound, sight, smell, touch and creating songs. It will excite students about language. Next, training workshop should be organized with an aim to help teachers to plan lesson for students. Education programme offers enrichment to tie up with school science curriculum. Behind zoo scene tours for pre-school children may be incorporated.

- (a) Kitchen: The idea linked with it is to know the diet, creeping or crawling movements, life cycle of Central invertebrates or encounter with a scaly kind of reptiles, how they are kept and bred.
- (b) Health: How to keep creatures disease free.
- (c) Special tour for one hour.
 - (i) For crop plantation.
 - (ii) For tame animal.
 - (iii) What to do when encountered with an animal.
- (d) Camping: International tour, Safari tour, zoo insight, tent pitching night safari tours.

Partnership with local communities empowers volunteers to establish different ways of wildlife conservation.

- (e) Wildlife buddy: Friendship with visually handicapped and disadvantaged persons.
- (f) Student volunteers can educate visitors about wild animals, their habit and habitat etc.
- (g) Zoolympix : Where students play games like animals(high jump like Giraffe, run like Cheetah etc.)
- (h) Photography: Nine days wildlife training programme can be arranged.

By all above programmes funds can be raised to help people to prepare paddocks to hold the livestock at night.

Suggestions:

- (i) " Visitors' Sign" in zoo should be attractive, informative but simply written.
- (ii) Zoo should be divided in 4-6 zones and after visit, visitors of each zone may interact.

The last lecture of the day was delivered by Mr. Rangaswami Marimuthu on the topic **ROLE OF ZOO OUTREACH ORGANIZATION IN CONSERVATION & EDUCATION.**

ZOO OUTREACH ORGANIZATION was founded by Sally Walker in 1986 in Mysore, Coimbatore. He started his lecture by demonstrating an energizer exercise to feel like a Tiger. The motto of Z.O.O. is to reach people and involve them as supporters of zoo and conserve wildlife. It focused on biodiversity, conservation of wildlife, provide education support to zoo and improve the image of zoo.

CSBG (1992) has developed conservation tools and their networks to organize camps and trainings for field staffs (Field workers may be biologist, farmers, wildlife official, zoo personnel or academician) and also organize education awareness programme. Later they assess camp workshop recommendation and their networks implement these programmes in zoos. The education awareness programme covers three tiers:

- (i) Ministerial level
- (ii) Common man
- (iii) Student involvement.

The training and education programme covers following areas:

1. Threat for species.
2. Trade information
3. Population number
4. Legislative status
5. Conservation breeding information

6. List of specialist
7. Threat status (IUCN) of all species.

Mr. Marimuthu also showed various slides of endangered non-charismatic species (who attract less people) like Bats and many others. He also distributed a kit (envelope), read as climate change which comprised " Rakhi" and " Mask".

At the end of the session a visit to Sanjay Gandhi Biological Park, Patna was organized for participants where they interacted with the visitors and observed the several aspects of management, public amenities thereat. They observed and penned down their observations under following topics by four different groups among them:

- (i) Visitors' facilities and interpretation.
- (ii) Random survey on visitors' profile. How and why they visit zoo.
- (iii) Public Amenities
- (iv) Animal enclosure facilities

DAY -THREE

DATE - 08-04-2010

The first lecture was delivered by Mr. Manimozhi from Arinagaranna Zoological Park.

He showed the glimpses of his zoo. The zoo has a wide range area with auditorium, multimedia centre, guest house and basic and public amenities. He suggested that the role of zoo and zoo educations are projecting itself as a window to wildlife , conservation of captive animals and catering awareness. In a survey it has been reported that Indian zoos have 80% low-risk endangered animals and out of them least concerned are mammals. Their zoo has collection of single and mixed species of reptiles, mammals and birds. He described that zoo education enrich human-beings with motions, attitude, behavior towards zoo animals. It also develops quality to appreciate, understand and respect Nature. Zoo education comprised of ethnology, animal habitat, bio-diversities, economics, Nature, conservation of animals, genetics and cultural enrichment. (He also described one or two of his experience). He elaborated about the formal and informal zoo education programme.

INFORMAL EDUCATION: By living, viewing and hearing of animals. It can also done by presentation, signage graphics, talks with zoo-keepers, animal display boards, directional signage, small interpretative boards, by jumping and leaping activities etc.

FORMAL EDUCATION: This is related with philosophy, principles of environment, suitability and conservation of animals. It should be related with school, colleges and universities. Formal education task should be exciting, interactive and incorporated with structural education programme. It may be linked with school curriculum, socio-economic features and participation of NGOs.

Extension education programme may be adopted by visiting schools, Zoo Outreach Clubs, volunteers, newsletters, guides and websites. Conduction of eco- education in social forum can be done by slideshows, exhibitions, live animal shows and special programme like celebration of Wildlife Day or Green Day.

Zoo school should have motto to think globally but act locally. It could be one day programme for students and teachers and public institution persons. Idea can be adopted like distribution of free lunch and tickets.

Trainees should be included from Army men, slum-persons, School Directors, teachers and students. Zoo education can be spread by mass signature programme and distribution of animal- printed T-shirts. Vigilance Department persons can be helpful in stopping animal trade. Veterinarians may be helpful during animal-man encounter. Research persons related to zoo and wildlife subjects may influence in improvement of captive breeds. Staff training may improve skill, creativities, interventions and innovation qualities among staffs.

There was no question!

The second lecture of the day was delivered by Ms. May Lok (Singapore).

HOW THE MARKETING AND BRANDING IS USEFUL IN ZOO DEVELOPMENT.

These are the less discussed areas specially in India concerned with zoos. However brand name is an honour and ply positive image for the subject. Brand name is worth for defining good image and feeling of reorganization and love or liking associated with them. It also signifies product creators' product value in local and international market.

She quoted the example that the Singapore Zoo exhibits as – Rainforest Zoo, South-Asian most planted zoo, Zorong Bird Park- with live colours. Rainforest—Place for most enjoyable outing with facilities and services. Animal attraction - Orangutan and its flagship. They also highlight the healthy animals of the zoo, picturesque natural landscapes.

They provide conservation education, advertisement for publicity of zoo. She also warned that any advertizing policy must cover what it promised otherwise their brand name loses its credibility. Zoo marketing of the Singapore Zoo has been adopted as per its staff strength, Ad promotion, graphics and community based programme by developing media relation and being proactive (by highlighting the good news like new arrivals, birth, pregnancy, animal celebration events and shortening or not talking of bad news). Highlighting the staff profile, volunteers, new equipments, sponsorship, unique features, stories of new happenings may have extra advantage. Selection of spokesperson is also important who can talk to press within protocols. Before crisis, SOP protocol or crisis management should be adopted.

They also work on mission like polar bear campaign- SHEEBA and ANUKA. They celebrate Anuka's birthday on 26th December which inflows maximum visitors in Dec.holidays. They advertize polar bear in wildlife publication, use stickers, logos, photo galleries, entrance exhibition, mascot, pictured in directional posters, bookmarks, mascot in airline, websites etc. They have partnership with National Geographic Channel on issues like Global Warming. Next lecture was given by Ms. Akanksha **ABOUT REPTILES IN MADRAS CROCODILE PARK.**

They provide environmental education to audiences, school children, adults and collegiate with fulfilled activities like puppet show, formation of crocodile skull, poster presentation and many other games. Education materials are constantly being developed and scientifically updated. They comprised of interactive work-sheet, fun learning, cross-words, puzzles, feedback views, species card, news-letters, postcards, posters, stickers etc. Development of attention grabbing programmes like field-trips which are unique and exciting and in supervised manner should be done. Displaying geographical distribution of crocodile, organizing summer camp, sneak beak in the world of reptiles are also attraction. Arrangement of tour guided by trained and decent staffs should be done.

Night Safari is the most attractive feature to observe crocodile as water splashing, jaw slapping or reclaiming territory.

Watching turtle walk in the on the beach is also awesome.

It was suggested that since crocodile is a non charismatic/attractive animal, hence dynamic education programme is necessary.

Next talk was given by Ms Meena Nareshwar on **ZOO AND OUTREACH PROGRAMME.**

As it was widely discussed earlier that school students visit, celebration of green day, nature trail, bird watching, trekking, hiking, celebrating animal special week are the features of public awareness about wildlife, forest and their conservation; studies of biodiversity should also be carried out in and around these sites. Involvement of youth and forming of youth club for environmental issues like global warming, pollution control or maintenance of greenery is another aspect of outreach efforts. Outreach programme also includes capacity building programmes for zoo staffs, enrich volunteer services that provide assistance during peak visiting seasons. Wildlife shows, interaction with visitors, their interpretation, their liking-disliking are the parts of the programme. Few zoos ex. Snake Park of Chennai or Nandankanan Park of Orissa have auditorium to organize games and ceremony like animal adoption etc. She emphasized that T.V. linkage with electronic media, corporate policy maker, NGOs could be effective.

Before lunch Mr. Marimuthu presented a lecture on the topic of **ACTIVE LEARNING TEACHING METHODS FOR CONSERVATION OF EDUCATION.**

Learning in workshop is to listen, discuss, read and write or solving problems. But active learning is somewhat creative methods of learning where trainee has not to concentrate what trainer is speaking but trainer keep them engaging in things like playing drama, story writing, preparation of concept maps etc. The assessment of active learning is evaluated by attitude assessment, concept of surveys, pictorial and panel discussion methods, debates, charts, models and another brain storming activities. Active learning also teaches behaviours and characteristics of animals. Debates can be organized on Animal-Human Conflict, Control of mob and assessment of audience by face expression. Active learning improves attitude, thinking, feeling and friendly bonding towards animals. The visiting of a zoo can be inspiring along with entertainment and people may have emotional experience when they have gone through active learning and teaching methods. Hence people get more oriented and understand

concepts. Mr. Marimuthu promised to provide Drama Kit, Finger Puppet Kit as the tools of active learning.

Next lecture was delivered by Sri T Sundramoorthy, Centre for Environmental Education Centre, Chennai on **ROLE OF CPR ENVIRONMENTAL EDUCATION IN CONSERVATION EDUCATION WITH SPECIAL REFERENCE TO ZOO.**

CPR established in 1989 and CPREEC organizes various education programmes to increase knowledge, awareness and interest among people about environment in all its aspects.

Motto: To educate awareness, commitment and motivation in people for conservation of environment and zoos. Distribution of knowledge-from Lab to field through network of NGO, Central Government & State Government, Universities and Schools.

Targets are follows:

Teachers training are provided with teachers kit composed of books written on environmental concerns of India, Activity books for students including manuals and posters.

He stressed the need to include the lessons related to wildlife in the Ministry of HRD and text related to environmental science and its incorporation in NCERT, SCERT and NCET & University curriculum. Training courses can be available for lawyers, magistrates and advocates. Recently they have started green school initiative (teach how to use the resources less like water, electricity etc.), improvement in scared groves and waste land development (eg. Nemmeli- 1995-1998). The conservation of Nilgiri Biosphere Reserves, water shed management (It has given livelihood to indigenious people of Nilgiri, developed Kurumba painting, Kota pottery) are other fields of excellence. They have started mobile van water management, research in air, water and soil (publish survey reports). They gave the thrust to development and improvement of natural resources (supply of water testing and soil testing kits). They publish Indian Society of Environmental Education journal. CPR Environmental Education Centre has website (EWWIS) and they collect information from all over the India on biodiversity and conservation of ecosystem. They also run biodiversity conservation education programmes for Animal Keepers regarding general awareness, species approach, conservation of Tiger, birds, mangroves, wetlands and elephants.

They also invite discussion on tropical forest system, role of Pachyderms in forest ecosystem. Publication of books and teacher's orientation programme, maintenance of peoples' biodiversity register, Biodiversity Day celebration (22May) are other important activities.

In the evening a visit on the Floating Restaurant in Ganga was organized for the participants which they enjoyed a lot. Most of the participants were excited to see the Gangetic Dolphin in its natural habitat.

DAY- FOUR

DATE-09-04-2010

In the pre lunch session Dr. Piyali Chattopadhyay, Deputy Director of the Alipore Zoological Garden elaborated the ongoing programmes at Alipore Zoological Garden, Kolkata. Mrs. Akanksha Mukherjee, Education Officer MCBT spoke on the prevailing conservation education

methods at Madras Crocodile Bank Trust. The last lecture of the session was delivered by Dr. Brij Kishore Gupta of CZA on efforts of the zoos on sustaining nature.

In the post lunch session various groups of the delegates presented their exercise.

The worksop concluded in the post lunch session on 9th April, 2010 with a simple ceremony in which Certificates of Participation and mementoes were presented by Sri B.A.Khan, IFS, CCF Development and Sri Surendra Singh, IFS, Divisional Forest Officer of the Patna Division to the participating delegates. Sri Abhay Kumar, IFS, the Director of Sanjay Gandhi Biological Park summed up the deliberations made by participants who represented various zoos in India and abroad and bid farewell to participating delegates and wished them Happy Journey back home.

WILDLIFE RESERVES SINGAPORE

.... three parks which are homes to some 10,000 animals



Singapore
Zoo

.... adding another attraction River Safari – to educate on freshwater ecosystems

First in SE Asia

By March 2012

Wildlife Reserves Singapore

....where some 3.6 million people can get close to Nature in an urban environment



Singapore
Zoo

About WRS....

Our shareholders are Temasek Holdings and Singapore Tourist Board (STB).

Operational expenses fully self-reliant.

Development of exhibits and facilities – partial funding (30%) from STB.

Our Mission

To inspire people to discover and protect biodiversity through exciting and meaningful wildlife experiences.

Our Corporate Philosophy

People, Animals & Community
One is no greater than the other

Our Corporate Philosophy

Do Good
By doing well \$\$\$\$
Through partnerships

Education Department

We came a long way....
It's another long road ahead.....
But We Will Make It!

THE LIVING CLASSROOMS @ WRS

Education Department
5 – year strategic plan

Strategic Thrusts

The Best Living Classrooms in Singapore

Opportunities for multi-facet and
multi-disciplinary learning journeys

Communicate conservation education through
digital media and web-based platforms.

What, Why, How?

Conservation education is more than
imparting knowledge.

It is about gaining insights and understanding
'what', 'why' and 'how'

What can I do?

Knowledge = Desire To Conserve???

Unknown = unloved

Because we cannot care for and love what
we do not know.

However, knowledge does not always inspire
care and concern.

We may not love and conserve what we
know.

Conservation Education : The 3 Steps

Change unaware to aware
Action : Generate awareness and impart
knowledge

From aware to concern
Action : Engage and educate

Give Sense Of Ownership
Action : Empower individuals to
contribute positively.

5 Senses

All activities should excite and evoke
emotions through these components -
sights, sounds, touch, smell and taste.

Goals For Next 5 Years

To help posture WRS as a serious conserva-
tion institutions through enhanced conserva-
tion education programmes.

To direct efforts in public engagement and
involvement for attitude change and actions
for wildlife and environment.

What To Educate?

Biodiversity – variety, value, loss of and impact on us, etc

Ecosystems and habitats – interrelationships, in relation to adaptive features of living organisms, destruction, etc

Native wildlife

Pet responsibility

Illegal Wildlife Trade

Climate change

Actions, actions, actions – what?

Who To Educate?

Members of the public – particularly visitors to WRS. Public education is key area to target in the next 5 years.

Stakeholders – staff, Temasek Holdings, STB, tour guides, educators.

Opinion leaders, decision makers and the media.

Schools (particularly pre-schools and tertiary, done well in primary schools, to continue momentum)

How To Educate?

Through formal curriculum with schools :

- WIP for MOE's PAL (programme for active learning) for primary one nationwide by 2014.
- WIP with ITE on elective module for students
- To work with PCF pre-schools and Little Skool House on structured curriculum for students and workshops for teachers. To work resource materials to guide teachers on conducting effective learning journeys in WRS.

PAL Programme

To promote outdoor education
P1 to P6, nationwide formal curriculum by
2014

Curriculum spans over one term
8 modules with 2-hour lessons conducted in
schools by WRS staff.

Two learning journeys – day camp at Zoo or
JBP.

Finalised curriculum for pilot programme. To
be launched for Macpherson Primary School
for P1 in March 2010.

How To Educate?

Through Digital Platforms

- In-park digital trails for students and public (audio by 3rd quarter 2010, multi-media by end 2012)
- Education portal with info, WRS updates and stories, Wildlife Wonders, resource material for educators, parents, games for kids, volunteers or visitors to post views, stories, etc.

Possible link to MOE and PCF resource sites.

How To Educate?

Through public education campaigns :

- Native wildlife eg. toddy cat, long-tailed macaques, pangolins, oriental pied hornbill, etc
- Focus on one or two species a year.
- Involve tertiary institutions to develop animation, videos, and other resource materials.
- Work with NGOs and other green partners

Communication and Posturing

Be seen and be heard. Public engagement is key.

Educate public on conservation issues thru talks and interpretives in-parks, docent/student volunteer stations, teachers' workshops.

Digital trails and web-based platforms, social media – Facebook, etc

Media platforms

Communication and Posturing

To build new Education facilities

- create environment to learn.
- natural history museum to educate biodiversity
- interactive gallery for public to learn about climate change.

-Green concept building
(similar to that in Taipei Zoo)

Communication and Posturing

Launch quarterly EDM on conservation matters (to alternate with Wildlife Wonders).
features projects, volunteers, students' work
showcases public involvement

Develop mascots, animal celebrities to convey messages

Communication and Posturing

Outreach activities

- public talks, roadshows,
- travelling exhibitions,
- large scale green efforts with public participation, fund-raising activities, etc

TV children's series, videos.

- partnership with network channels for international network discussion.

Resources Needed

Propose an additional nine education staff :-
one assistant curator for JBP

- two additional for SZG (curator or assistant curator level).
- three new members with showmanship for conservation communication
- one digital content manager for WRS - writing, producing, updating and management of digital content
- one graphic designer for digital content



Conservation education and zoos

. S. Bonal , IFS Member Secretary, CZA

SCHEDULE OF PRESENTATION



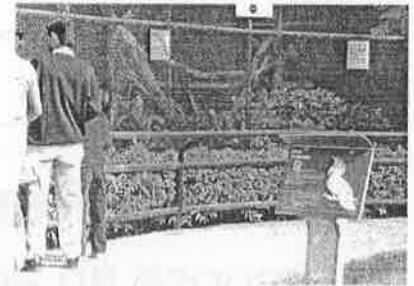
ZOOS IN INDIA

CENTRAL ZOO AUTHORITY

ZOO RULS/POLICY VIS-À-VIS
CONSERVATION EDUCATION

FINANCIAL ASSISTANCE BY CZA

FUTURE PLAN



ZOOS IN INDIA



“Zoo” means an establishment whether stationary or mobile, where captive animals are kept for exhibition to the public and includes a circus and rescue centers but does not include an establishment of licensed dealers in captive animals



ZOOS IN INDIA



Recognized zoos:	197
Large category zoos-	22
Medium category zoos-	11
Small Category zoos-	34
Circuses-	23
Rescue centre, Mini zoos or deer park-	107
Derecognized or refused recognition:	313

CENTRAL ZOO AUTHORITY



(A statutory body under the Ministry of
Environment and Forests, Government of India)

OBJECTIVES:

Central Zoo Authority was established in February, 1992, with the objective of preventing mushrooming of ill planned zoos in the country, as well as, for overseeing the management of zoos and providing them necessary technical and other inputs to come up to the desired level of management.

Functions of Central Zoo Authority:

- (a) to specify the minimum standards
- (b) to evaluate and assess;
- (c) to recognise or derecognise
- (d) to identify endangered species
- (e) to coordinate the acquisition, exchange
- (f) To maintenance of studbooks of endangered species;
- (g) to identify priorities and themes;
- (h) to coordinate training of zoo personnel
- (l) to coordinate research in captive breeding
- (j) to provide technical and other assistance to zoos;
- (k) to perform such other functions

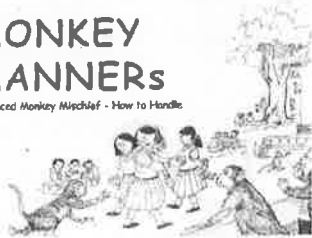
Recognition of zoo rules, 1992 vis-à-vis conservation education

Every enclosure in a zoo shall bear a sign board

Every zoo shall publish leaflets, brochures and guidebooks and make the same available to the visitors either free of cost or at a reasonable price.

MONKEY MANNERS

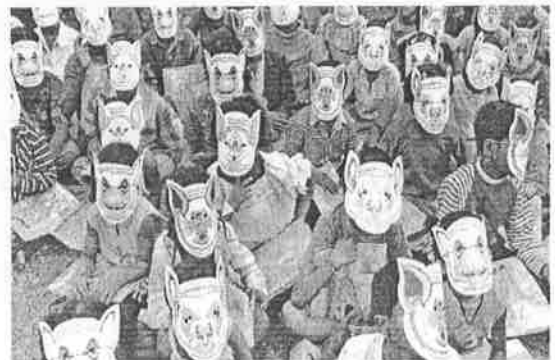
Misplaced Monkey Mischief - How to Handle



Recognition of zoo rules, 1992 vis-à-vis conservation education

Every zoo shall endeavour to educate the visitors to the zoo and people at large about the significance of wildlife conservation for the general well being of the people and keeping the life support system of nature intact and efforts shall be made to make people aware about the role played by the zoos in this regard and the ways and means through which general public can participate and contribute the same.

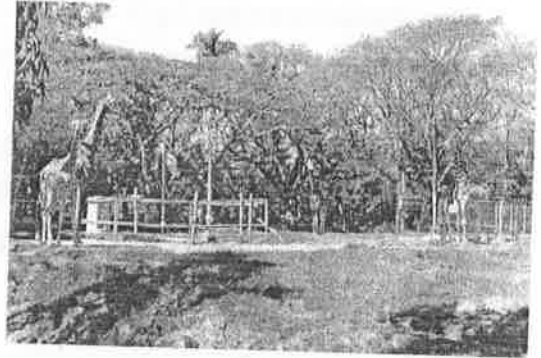
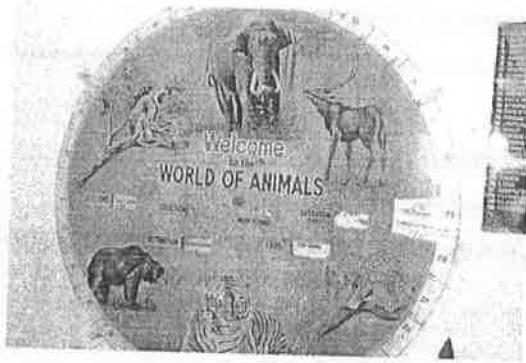
No physical handling or performances by the animals shall be permitted as part of education activity.



National Zoo Policy, 1998

Each zoo should have a well drawn up plan for the education the visitors

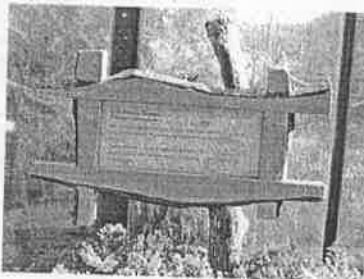
The Central theme of the zoo education programme being the linkage between the survival of various species and protection of their natural habitat,



Attractive signage,

. A formal educational programme should also be persuaded

The help of the universities, colleges, and non-governmental organization shall be taken to educate the students about the benefits of supporting nature conservation pro



Education Officer in zoos -Duties

Preparation of brochures, booklets, CD's and other interpretative material on behaviour biology and ecology of various species housed in the zoo for their further dissemination. Designing and upgrading the signages at various enclosures and developing appropriately designed direction boards.

Appropriate warning signs for regulating movement of visitors.

Providing orientation and guidance to the visitors for having educative and rewarding experience at the zoo.

Making arrangements for conducted visits of organized groups.

Assisting in redressal of the difficulties and grievances of visitors.

Training the zoo personnel to deal with the visitors in courteous and polite manner without compromising with zoo ethics.

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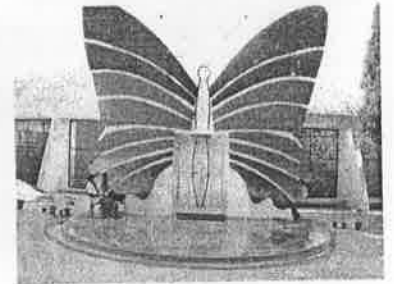
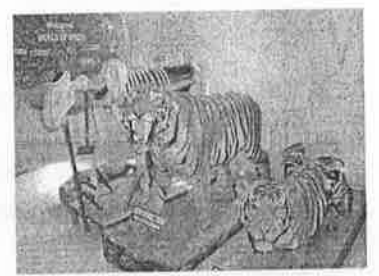
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CZA's guidelines on appropriate educational signage

Signage boards should be made of weather proof, durable, tough and strong material which can last for reasonably long durations and can be reused and repainted.

The signboards should be attractive but due care should be taken to ensure that this should not obstruct animal viewing, legible from reasonable distance and should highlight details about the biology, behaviour, distribution and conservation status of the species. Interesting informations like animal diet and longevity should also be highlighted.

Signboards should not be loaded with too many informations. Signboards should be understandable to a child/ average literate person.

Appropriate graphic illustrations should be provided on sign boards to explain ecological linkages, taxonomical relationships and evolution of species.



Signage should also provide information on the conservation efforts being made in the country and the role being played by zoos in this regard.

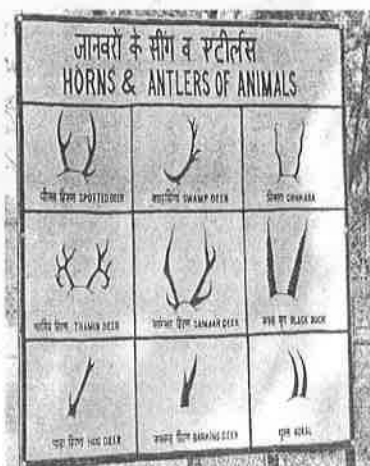
Signage should be designed in such a way that they catch the attention of the visitors and the visitors are tempted to read them.

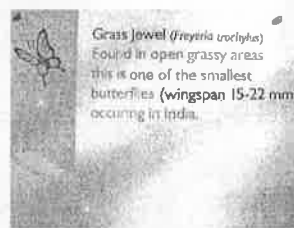
Negative signages like the animal being cattle lifter/ man eater should not be displayed as these dilute the message of conservation.

Signages should be monitored and evaluated regularly and updated constantly.

Signages should be fixed at prominent places at such heights that these can be read conveniently. Avoid fixing signages on trees inside the animal enclosure or along the side of hedge planted between the stand off barrier and the moat wall. Sign boards fixed near the animal viewing line of visitors look quite attractive.

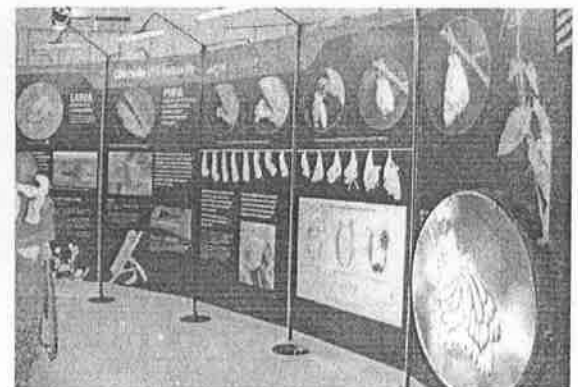
Avoid use of gaudy colours for preparation of signage. Use such colours that merge with animal exhibit environment.





CZA's guidelines for Interpretation facilities

Animal-habitat relationship, population, dynamics, animal adaptations, animal evolution, ecological role of animals are some of the important areas for interpretation. Interactive devices to get some feel of main strengths of various species, history of animal management in zoos through obsolete animal exhibits- may also interest the visitors.



Nature trails to educate the visitors on local species of fauna and flora in well managed hedge and tree groves and water bodies can help in providing the visitors insight to nature and generate empathy for wildlife. Recorded commentary on different facts about animals in the vehicle used for different safari's can be excellent educational material. Deployment of trained zoo guides for use of visitor groups shall be quite effective.



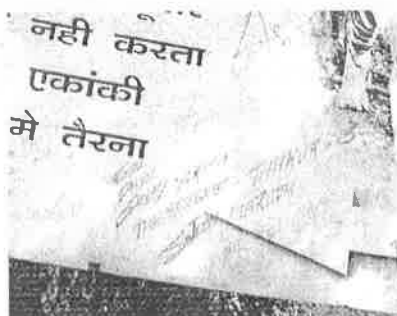
FINANCIAL ASSISTANCE

Creation of better animal housing, veterinary facilities, research and training related activities are financed on 100% basis by the Central Zoo Authority.

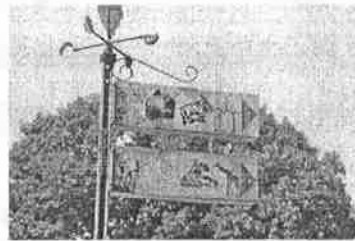
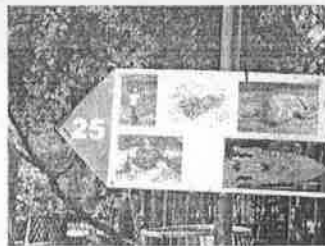
Where as for development of infrastructure like boundary wall, electricity network, water distribution, road / footpaths, sewage disposal, signage and visitors facilities are shared with zoo operator on 50:50 basis.

Requisite of conservation education

Understanding of visitors e.g. Age, sex, nationality, social status, purpose of visit, time spent in zoo, liking & disliking and their behaviours.



Interpretation of information on conservation education e.g. Animal (enclosure, status & distribution, behaviour, life history and habitats), directional signages and their language, presentation and type of information, content, location, design, uniformity and zoo maps etc.



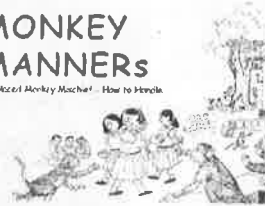
Education and outreach e.g. Celebrating events, programme for school groups and colleges, nature trails, volunteer programme, film shows, naming ceremony, animal birthdays, adoption of animals, zoo weeks, exhibitions, publications and newsletter etc.





MONKEY MANNERS

Misplaced Monkey Mischief - How to Handle



Training and capacity building e.g. Training for zoo staff, orientation programme for teachers, zoo guides, volunteers, general public, and tourism department etc.



If at first you do not succeed, skydiving is not for you.

—Tim Pater

Sent in daily @ 10:00 AM at speakup@dnaindia.com

For example, about something that you see, hear or feel? Give us your story and we'll take it across the city. Mail us at speakup@dnaindia.com

big shout

Today's Question:
Do you manage your daily expenses with a budget?

with SAC Spaces A to C to 5457 for answers. A Yes B No C Confuse

Yesterday's Question:
Do you think there should be more city jobs?

72% Yes 20% No 8% Can't say

Kankaria zoo animals up for adoption

AMC's new 'Friends of the Zoo' scheme opens up an entire new territory for both the animals and animal lovers. The scheme says that people of any private entity can adopt an animal and will get to use the enclosure to advertise their brands. Though this means big money for the Kankaria Zoo, it also means good facilities for the animals. Amdavadis Speak Up on the proposed scheme

Know more about animals

The scheme which we have proposed is called 'Friends of the Zoo'. If any person or an institution wants to adopt any animal then they have to apply for an advertisement for the zoo which they are adopting. The adoption fee will include expenses on suitable food and other relative expenses such as medicines and cleanliness charges. Even they can pay cost of emergency medical treatment. People can also adopt an animal of their choice and even can have more about them. The best part for them is that they can get close to animals. The programme will help them because an integral part of an animal's life is to be with its family.

Good news for the animals

The best factor which is proposed to me is good and this will help in current people with animals. The adoption plan will also help the zoo to get more funds and authorities will be able to provide better facilities to the animals, which they are unable to do earlier. And I do not think there is anything wrong with the proposal, including maintenance of these animals and helping animals in the process. If get a chance to adopt an animal then I will go for it, as much as possible because their adoption is not an easy task.

Would be a win-win situation

The government has been paying attention for the maintenance of the animals in the zoo. If the corporate sectors are gradually coming forward to adopt these animals and provide for their care, then I think the zoo should be upgraded. If in future they want to move the cage for the breeding of these animals, I don't find anything wrong in it. The government can also think of other ways to help for adopting these animals. This would be a win-win situation for all.

Shouldn't use animals for personal gains

I do not agree with this scheme. I feel if people and corporate sectors really want to do something for the welfare of the animals then they should do the necessary work for the animals rather than adopting a lion and get the lion. Also it is not correct if the corporate sectors use the lion space for their products or branding. There can adopt animals and put for their brands and it is not a win-win situation.

Offer only till stock lasts

It will be like adopting a child

Adoption of animals in zoos are seen in various but in general the zookeepers are not prepared for adoption of animals and giving the suitable care. In an ideal world, these are the best practices. People adopt only animals, or people who adopt babies of animals and finally people can adopt an animal. Such programmes are made for maintenance of animals in zoos. Adoption schemes are proposed in such a way that the animals are not disturbed. Adopters should know the adoption plan and should be involved in the feeding and maintenance of the animal. It is all about adoption, not about the money. The adoption fee is to support and build relationship between animals and people.

—Manisha Chaudhary, Zoo Curator, Kankaria Zoo

It is a unique scheme

The scheme is unique and I think it's a very good idea. It is not only for the animals and visitors but it is also for the society. Many people are not aware of the animals in the zoo. The adoption programme of animals can also take place with the help of corporate sector which will be good for the zoo. The scheme is good but it should be not only for the animals but also for the people who are interested in the animals.

Promotion of brands not an issue

I think it is a very good idea that the zoo authorities have proposed regarding the adoption of animals. It is a win-win situation for all. More and more people should come forward and support this scheme. I think the zoo can make it as a good job. If they adopt animals, I don't think there is anything wrong in it. The government can also think of other ways to help for adopting these animals. This would be a win-win situation for all.

It is a corporate benefit

The idea is very good but it is not only for the animals and visitors but it is also for the society. Many people are not aware of the animals in the zoo. The adoption programme of animals can also take place with the help of corporate sector which will be good for the zoo. The scheme is good but it should be not only for the animals but also for the people who are interested in the animals.

54 different types of animals are available for adoption at the Kankaria Zoo



Networking and Partnership e.g. partnership for sinages and facilities, local designers, botanical garden and museums, funding agencies, travel agents, community linkages, NGO's, Media, website etc. and institutional linkages, adoption schemes.

Centre for Environment Education (CEE) has developed zoo education master plan for the Central Zoo Authority and to be implemented by zoos in real spirit and same has been distributed to zoos for guidance and implementation.

Zoo Authority will ensure that while preparing Master plan, zoo education plan is elaborated.

The Central Zoo Authority is approving layout plan of the zoos at the moment and very soon will start scrutiny of the master plan as whole including zoo education plan.

So far 120 zoos has submitted their master plan and remaining are being asked to submit within 45 days else action will be initiated for the cancellation of their recognition.

It is hoped that zoos in India will be continuing as great source of conservation education and play their role in catering same to all sections of the society.

Profiling Zoo Visitors

Why, Who and What

Why Profile Zoo Visitors?

- To find out who is coming
- To know why they are coming
- To design programs for the visitors

Who comes to the Zoo?

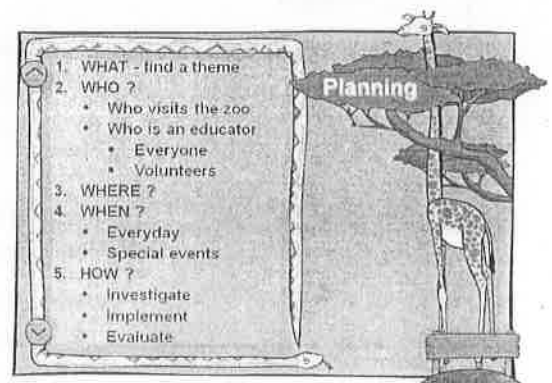
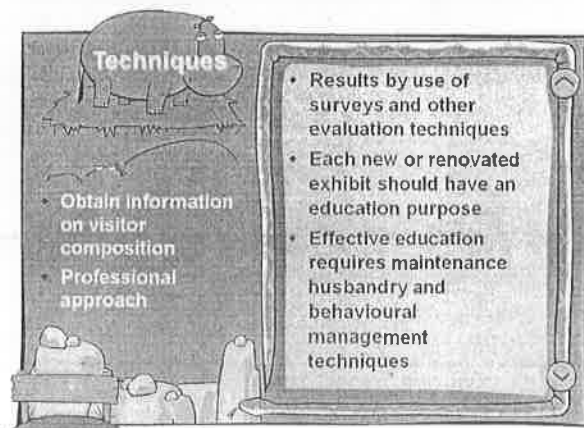
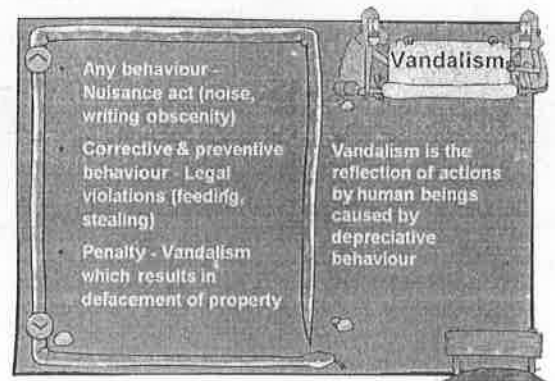
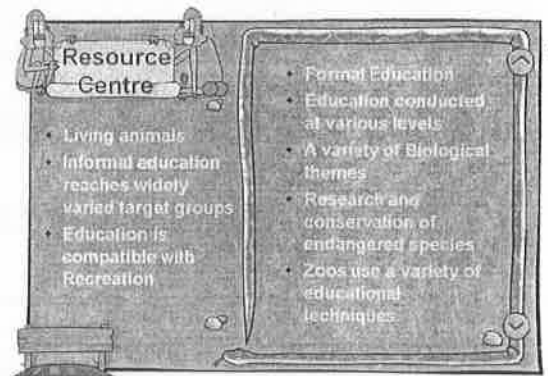
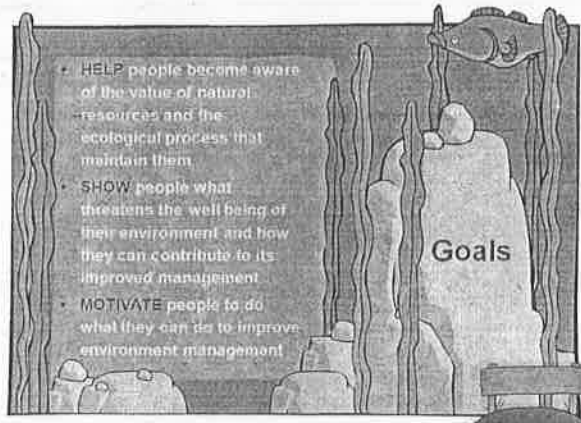
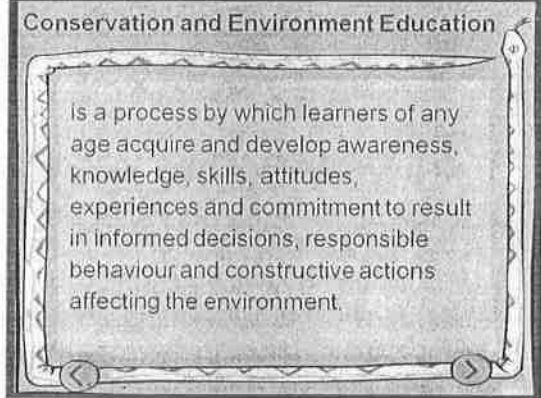
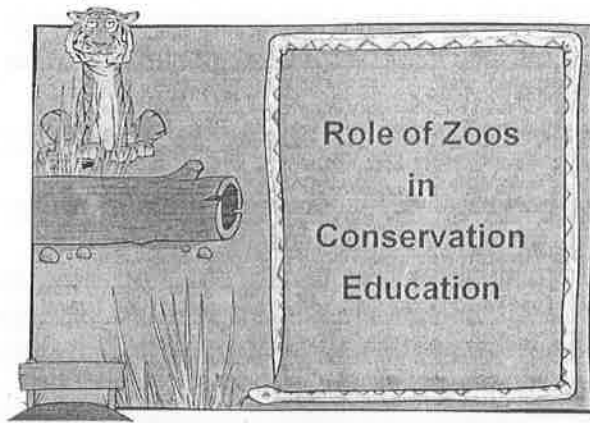
- General visitors
 - National/Local people
 - Foreigners
- Researchers
- Conservationists
- School/College Groups
- Politicians
- Runaways
- Media

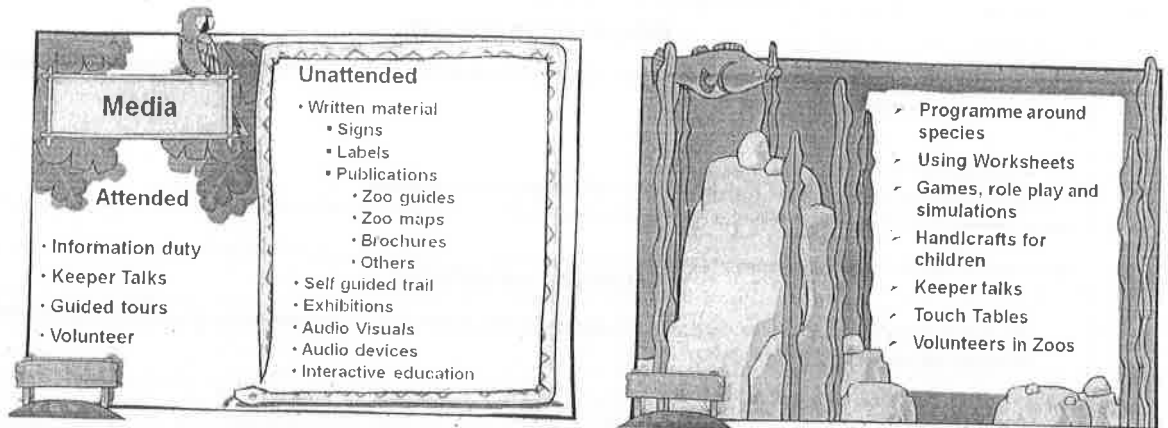
Why do they come to Zoos?

- Recreation and Tourism
- Learn about animals
- Have Fun
- For Research
- School/college projects
- Socialize with friends
- For relaxation
- No specific reasons

What can the management do?

- Visitor surveys
- Feedback forms
- Suggestion or complaint register





Vandalism and its Management in Zoos

B.C.Choudhury

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Definitions

- **Vandalism is the reflection of actions by human beings caused by depreciative behaviour, that is destructive in nature.**
- **Depreciative behaviour : Any behaviour or action that detracts from the social and physical environment.**

- **In the light of the above mentioned definitions, can we call the following as vandalism ?**
- **Rock exhibit of Ashoka that carved regulation on natural rock faces.**
- **Pre-historic rock paintings.**
- **Signages in a zoo covered with bird droppings.**
- **Shepherd allowing cattle herd to graze in zoo lawn.***
- **Spotted deer using a direction post as a antler rubbing post.**
- **Stealing tap heads regularly from the zoo.***
- **Teasing female visitors.***

- **Some of them (*) are results of depreciative behaviour and broadly can be classified as Vandalism. They can also be categorized as :**
- **Nuisance Acts : Making unwanted noise; Writing obscenities on the wall; Letting loose pets; Throwing litter; Breaking hedges.**
- **Legal Violation : Stealing zoo property; Feeding animals in the zoo; Eve teasing.**
- **Vandalism in its extreme form deface or destroys property : Breaking glass windows/cage glass intentionally; Spray painting signages; Carving names etc. on boards; bullet holes on boards.**
- **The first two needs action that are corrective or preventive but extreme vandalism not only needs preventive but also punitive action and reforms.**

Most vandallsm are motivated and can be categorised into :

- **Playful Vandalism (mostly a group behaviour and not intentional) – Begins as fun, becomes competitive and damage increases. Eg. : Plucking flowers, Jumping over fence, Altering letters on the board, throwing stones etc.**
- **'Pranks' – which most adolescents go through as a normal growing up process.**
- **Erosive Vandalism (Ignorance) – Plucking flowers (wild) or feeding animals.**
- **Tactical Vandalism (Premeditated) –**
 - a). **Attention getting : Setting fire.**
 - b). **Publicity seeking : Spray painting, Slogans, Territorial tags, Individual/Party**
- **Acquisitive Vandalism (Destroying for financial gain) – Looting coin boxes (Telephones/donation), Wire, Pole, Manhole Covers, Feeding Trays etc.**
- **Vindictive Vandalism (to demonstrate a grudge of punishment) – Killing animals in a zoo or setting fire etc.**

CAUSES OF VANDALISM

- Most people say vandalism is the reflection of a childhood of a deprived social and economic circumstances to a bored, idle teen and sometime to a arrogant richness.
- Adult vandals ?
- Commissioned, Financial Gain, Revenge motive which becomes a profession.

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Facts about vandalism :

Seen in both urban and rural area but more in urban areas.

- Mostly by young people against establishment.
- Public rather than private property targeted.
- Normally a group activity.
- Young vandalism is on the rise.
- Vandalism is more during low use, off-season, holiday season and post athletic events.
- Often begins as a prank.
- Vandal apprehending is difficult.
- Control expensive.
- People do not consider as act a vandal act till they are told.
- Vandalistic behaviour is part of the socialisation process of young people and will never be eliminated – *can only be controlled.*

VANDALISM CONTROL & MANAGEMENT

- MACRO LEVEL
- Make people know that vandalism control is a community responsibility.
- All citizens bear the cost.
- Problem is becoming serious.
- Vandalism control is teamwork.
- Vandalism in your zoo is an insult to the pride of local people.

CONTROL OF VANDALISM OR REDUCTION OF VANDALISM

- High quality durable material discourages vandalism.
- Presence of employee is a deterrent.
- Surveillance and increased visibility during critical periods decreases chances.
- Immediate maintenance prevents vandalism.
- Areas with entrance gates suffer less damage (sub-sections).
- Entrance fees and recording names and address of visitors decreases vandalism.
- A limited number of clear, reasonable regulation display helps.
- Low profile law-enforcement is more productive than high-profile law enforcement.
- Conviction of vandalism should be given publicity.
- Incentive litter control entertains, train and pre-occupy potential vandals.
- Interpretation and education staff should be a part of the vandalism reduction team.
- Visitor survey and opinion on vandalism helps control of vandalism.

OTHER THINGS THAT HELPS

- Community meeting.
- Public education & campaign.
- Statistics on vandalism on a vandalism bulletin.
- Develop special awareness days involving young people.
- Parent meetings.
- Offer visitor reward when they report vandalism.
- Seek NGOs support, Judiciary support.
- Prevent possible vandalistic articles entry to the park.

VISITOR FACILITIES/EDUCATION AWARENESS & VANDALISM CONTROL ASSESSMENT

Name of the Zoo
 Located in City/Town
 Population of the City
 No. of visitors to the Zoo (Annually)
 Please tick (✓), where appropriate

S.NO.	FACILITIES	YES	NO
1.	Children Park		
2.	Slide Projector		
3.	Video Films		
4.	Posters/Stickers		
5.	Information Counter		
6.	What is New Board		
7.	Nature Trail		
8.	Braille Board for Blinds		
9.	Touch & Feel Room		
10.	Museum		
11.	Visitor/Interpretation Centre		
12.	Zoo School		
13.	Zoo Volunteers		
14.	Public Relation Cell		
15.	Direction Signages		
16.	Signages in All Exhibits		
17.	Adequate Toilets		
18.	Drinking Water		
19.	Cloak-room Facilities		
20.	Child Care Centre		
21.	Souvenir Shop		
22.	Parking Space		
23.	Ticket Booth with Adequate Holding Area		
24.	First Aid Facility		
25.	Kiosk, Eating Place		
26.	Physically Disabled Visitor Facility		
27.	Do's & Don't Board		
28.	Security Guards		
29.	Guide Service		
30.	Brochure with Map		
31.	Way-side Exhibit & Diorama		
32.	Public Transport Area with Time-Table		
33.	Interpretation and Education Officer		
34.	Interpretation Education Plan		
35.	Special Day Programme – Wildlife Week, Zoo Birthday etc.		
36.	Interpretation & Education Budget		
37.	Close Circuit T.V. Facility		

KIND OF VANDALISM RECORDED IN YOUR ZOO

Name of the Zoo :
 Located in City/Town :
 Population of the City :
 No. of visitors to the Zoo (Annually) :

Please tick (✓ or X), where appropriate

S.NO.	FROM VISITOR	✓ or X	FROM ZOO STAFF	✓ or X
1.	Teasing Animals		Damaging Infrastructure	
2.	Feeding Animals		Killing/Disturbing Animals	
3.	Stone/Other Object Throwing		Instigating Strikes	
4.	Disfiguring Boards		Misinforming Media	
5.	Destroying Edges		Habitually Stealing Animal Provisions Including Food	
6.	Plucking Flowers		Drunk and Misbehaviour While at Work	
7.	Writing Graffiti on Tree Trunk/Toilet			
8.	Singing/Playing Music, Radio etc.			
9.	Playing Football/Cricket etc.			
10.	Drinking Liquor on Lawns			
11.	Teasing Woman/Girls			
12.	Using Zoo for Love Making			
13.	Throwing Litter			
14.	Setting Fire			
15.	Bringing Pets			
16.	Stealing Park Property			
17.	Using Public Place as Toilet			
18.	Speeding Vehicles			
19.	Damaging Public Telephones			

Visitor Characteristics and Motivations for Zoo Visitation

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 Dehradun
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Who are the Visitors to the Zoo?

- International Visitors
- Wildlife Conservationists
- Wildlife enthusiasts
- Wildlife researchers
- Group tourists
- Families
- Budget tourists
- Vagaries
- Exclusive tourists
- Solitude and Leisure seekers
- Writers

National Visitors (In addition to the kinds of visitors under International category others include:)

- Schools and colleges
- Local communities
- Officials and state guests
- Politicians
- Family groups
- Curious travelers
- Others
- Vandals?

How Can You Categorise your visitors and their motivations of visit to the Zoo?

- Depends on your data management on visitors
- Regular Visitor surveys
- Compilation of information from international, national and state tourism organizations
- Information from tour operators
- Tourism journals and magazines
- Networking with other visitation places in the city
- Networking with other zoos

What Influences Motivations?

- **Self motivation of visitors**
- **Publicity (various Media) influenced motivation**
- **Icon influenced motivation**
- **Purpose oriented motivation**
- **Exposure oriented motivation**
- **Other kinds of motivation – Family, holidays, education etc.**

What Motivates Visitors for Repeat Visits to Zoos

- Quality/quantity of information available to visitors on zoos in different media
- Quality and diversity of viewing/learning/recreational resources
- Quality of visitor facilities
- Visibility and interpretation of resources
- Quality of attended/unattended interpretive services/products (guides, brochures, interpretation/information centres etc.)
- Density of visitors in zoos
- Approach to different viewing destinations
- Others – availability of other kinds of tourism resources within reachable distance from the zoo
- Response from other visitors in Feedbacks, visitor books, Magazines, Newspapers etc.

What Zoo Managers Need to do for Visitor Analysis and Motivation

- Establishment of feedback mechanisms – daily response of visitors in Performa or information points
- Regular interval visitor surveys
- Visitor books at various locations of the zoo
- Suggestion/complaint books
- Providing maps/brochures/information on important zoo resource destinations and means of reaching them
- Clear cut information on do's and don'ts
- A range of other activities for keeping the visitors engaged when they are not in the animal viewing areas

ZOOS BEYOND THE BOUDARY

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Does Zoos Exist Beyond its Boundary?

Yes

- (1) As long as wild animals are in the landscape around and people perceive the zoo as a place for such animal.
- (2) If citizens of the locale where a zoo is located feel proud of its role in wildlife conservation and education.

Why is it necessary to make people beyond the zoo boundary to be involved in zoo activities?

- They are a major stakeholder.
- They are your target audience.
- They will support or oppose your activity.
- They will publicize your zoo.

How to make them involved?

- As members in the Zoo Advisory Committee.
- By involving them in certain zoo activity.
- By setting up "Friends of the Zoo" or "Nature Club" campaigns.
- By celebrating certain functions with their involvement (important national days/special Zoo days etc.).

Special Reasons for Stakeholders involvement in Zoo Activity

- Animal health care & management in zoos and beyond (Vaccination, control of zoonotic diseases etc.)
- Vandalism Control in Zoos.
- Control of illegal trade of wild animals.
- Rescue of threatened species.

Do Zoos Have a Role Beyond Exhibition of Wild Animals?

Yes

- (1) Satellite Zoos for Conservation Breeding. Eg. Front Royale.
- (2) Rescue Centers for Animal Welfare and Control of Problematic Animal Management.
- (3) Serving as a living laboratory and an educational resource center and/or as an extension of formal class room.

Who Are the Target Beyond the ZOO Boundary

- In the zoo your visitors come willingly and reach you
- Beyond the ZOO you need to reach out to them
- And Who are your targets
Planners and Administrators, Politicians, corporates, Media, educational institutions, researchers, family groups and common citizens (AM ADMI)

Zoo Management Needs to Focus beyond its boundary for....

- What media and public say about the Zoo
- What visitors say based on their feedbacks, if you are collecting them
- Develop its outreach program to change the negative opinions to a more positive and Zoo friendly opinion

Zoos are now so important that cities are now known because of their ZOOS rather than the other way round .

London Zoo

Singapore Zoo

San Diego Zoo

Chennai Snake Park

Do You know any other city or you want your city to be known that way.

Title :- Survey Sheet for General Zoo Visitors

Name of the Participants-

1. **Dr. Manimoezhi (Group Leader), Biologist, Arignar Anna Zoological Park, Chennai**
2. **Mr. Sanjay Kumar Mahato Curator, Tata Steel Zoological park, Jamhsedpur**
3. **Ms. Ashwini Shitole, Education Officer, Rajiv Gandhi, Zoological Park, Pune.**
4. **Mr Srihari Gopal Asst. Curator, Indra Gandhi Zoological Park, Vishakhapatnam.**
5. **Mr. N. N. Samantaray, Senior forestry Ext. Officer, Nandan Kanan Biological Park, Orissa**
6. **Mr. Robert Pradeep Soreng, Forest Guard, Andaman Zoo,**
7. **Mr. D. V. Mhetras, Garden Supet. Solapur Zoo.**

Questionnaire:

Name :

Sex :

1. Age Group – 1.< 10 years, 2. 11-25 years, 3. 26-40 years 4. 41-Above.
2. Education Qual. 1. Illiterate, 2. 1-12 Std. 3. Degree/ P.G. 4. Others
3. Occupation- 1. Student 2. Employee 3. Professionals 4. Others.
4. Annual Income – 1. < 1 lakhs 2. 1-3 Lakhs, 3. 3-20 Lakhs, 4. >20 Lakhs.
5. Come from- 1. Village, 2. Town, 3. City, 4. Foreigners
6. Mode of transportation- 1. By Walk, 2. Public Trans. 3. Two wheelers
4.Four Wheeler.
7. Purpose of Zoo Visit – 1. Entertainment 2. To observe animal
behaviour, 3. Relaxation, 4. Educational, 5 Others.
8. What do you like most in the Zoo- 1. Animals, 2. Landscaping, 3.
Visitor Facilities, 4. Zoo Management,
9. How much time did you spent in the Zoo- 1. < 1hr. 2. 2-4 hrs. 3. 4-
6 hrs. 4. >6 hrs.
- 10.Group Size- 1. Single, 2. 2-4 Family 3. Friends 4.neighbours, 5 Trips
11. Frequency of Visit-1. First Time 2. 2-4 Times, 3. 4-10 times, 4.
Regular
12. Educational Materials Provided- 1. Useful, 2. Not.
13. Signages Provided- 1. Adequate, 2. Inadequate
14. How do you come to know about the Zoo. 1. Friends and
Relatives, 2. Print Media 3. Elt. Media, 4. Others
15. Suggestions if any:

Date:

Sign

Visitor Survey (School children)

1) Name of School: _____

2) Age:

Below 5 years 5-10 years

10 to 16 16 to 19

3) How often do you come to the zoo?

Less than once a month Once in a month Quarterly

Half yearly Yearly In more than two years

4) How much time would you like to spend in a zoo?

Less than 3 hours Half Day

Full Day More than a day

5) Medium

English Hindi Local Language

6) Grade the following activity according to you would like to do in the zoo. (from 1 to 12).

a) Guided tour

b) Wildlife Documentaries

c) Powerpoint presentations

d) Zoo chores

e) Help with zoo management (Behind the scene)

f) Painting

g) Quiz

h) Essay writing

i) Quiz

j) Debate

k) Photography

l) Games

7) Tick the subjects that you are currently studying in your class?

a) Adaptation b) Biology

c) Food chain d) Behavior

e) Classification f) Conservation

8) Why do you come to the zoo? Give grades

a) Fun and entertainment b) See animals

c) Study d) Projects e) Other _____

9) What type of animal interests you the most?

a) Birds b) Mammal c) Reptiles d) amphibians e) insects

f) Fishes g) plants



Role of



Zoo Outreach Organisation (ZOO)

In

Conservation Education



South Asian Network



ZOO OUTREACH ORGANISATION

ZOO OUTREACH ORGANISATION

A non-governmental organisation - registered Society with strong links to government organisations

Founded in 1986 by Sally Walker at Mysore, Karnataka, South India with funds from the Ministry of Environment, Government of India

Focus on biodiversity conservation, wildlife welfare, research and education

Zoo Outreach Organisation, P.O. Box 1683, Peelamedu,
Coimbatore 641004 Tamil Nadu, India. Ph: +91 422
2561087 Fax: 2563269
Web: www.zooreach.org

ZOO works with "Non-charismatic mini-vertebrates
& invertebrates

Raise Funds
Produce Educational Materials
Theme Based
Not Only Charismatic also non Charismatic
Invertebrates
Bats
Rodents
Amphibians
Reptiles
Vulture
Plants as well

Collaborate with
 International Organisations and Others - Training Workshops
 Using Species or Taxon groups
 Also Collaborate Number of IUCN / SSC Specialist groups

**Z.O.O. Works for nearly all Indian and S Asian fauna And
 always emphasize on Zoo education**

Subject / Taxon
 Networks
 Education
 Invertebrate
 Amphibian
 Reptile
 Chiroptera (Bat)
 Rodentia, etcetera

Workshops, Training,
 Reports, Briefing books
 CAMP Workshops
 PHVA Workshops
 Field techniques
 Captive breeding
 Education
 for nearly all Indian taxa

Magazine, Journal,
 Newsletters
 ZOOS' PRINT
 ZOOS' PRINT Journal
 Journal of Threatened
 Taxa
 ZOO ZEN
 Bugs r All
 Frog Leg
 Reptile Rap
 BATNET
 Rat-a-Tattle
 CBSG, South Asia
 CBSG, India

ZOO networks with:
 Taxon / Species specialists in S. Asia
 Zoos, welfare organisation in Asia
 Universities/ Research institutions in S. Asia
 Forest and wildlife agencies
 Other NGO's

With this background and experience...

ZOO started SANIZE to fulfill the responsibilities of
 IZE representative

The 3 target areas are:

1. Practical day to day problems of zoos in South Asia
2. Providing accurate information to the public generated by indigenous S.Asian Field biologists
3. Addressing the massive biodiversity of S.Asia (Non-charismatic mini-vertebrates and invertebrates)

SANIZE
SOUTHASIAN NETWORK
OF THE
INTERNATIONAL ZOO
EDUCATORS ASSOCIATION

India
Pakistan
Bangladesh
Bhutan
Sri Lanka
Nepal
Afghanistan

IZE and SANIZE

SANIZE was formed as an 'activity' of Zoo Outreach Organisation to permit the Asian Regional Representative to raise funds and draw support from a variety of activities, individuals, organisations and institutions.

Zoo education for practical day to day problems of zoos in S.Asia

Activities
and
techniques
of SANIZE
guided by
ZOO...



PUT YOURSELF IN THEIR PLACE. DO NOT TEASE ZOO ANIMALS

ZOO focus in tackling practical problems

Zoo education for day to day problems



How to use this packet

1. The animal's...
 2. The...
 3. The...
 4. The...
 5. The...
 6. The...
 7. The...
 8. The...
 9. The...
 10. The...

Providing accurate information to the public generated by indigenous South Asian Field biologists

Activities and techniques of SANIZE guided by ZOO...

Providing accurate information to the public generated by indigenous South Asian Field biologists

Most difficult aspect of education is availability of accurate information

- Researching information on taxa takes time, expertise, money
- Information provided will be often misleading and inaccurate in terms of species information

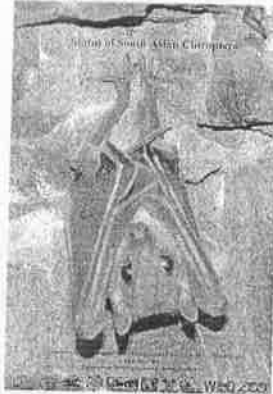
Activities and techniques of SANIZE guided by ZOO...

... generating information

ZOO hosts CBSG South Asia, the regional network of
 Conservation Breeding Specialist Group – IUCN SSC

Over the years ZOO has organised:
8 PHVA's and 17 CAMP workshops
Covered well over 2000 species

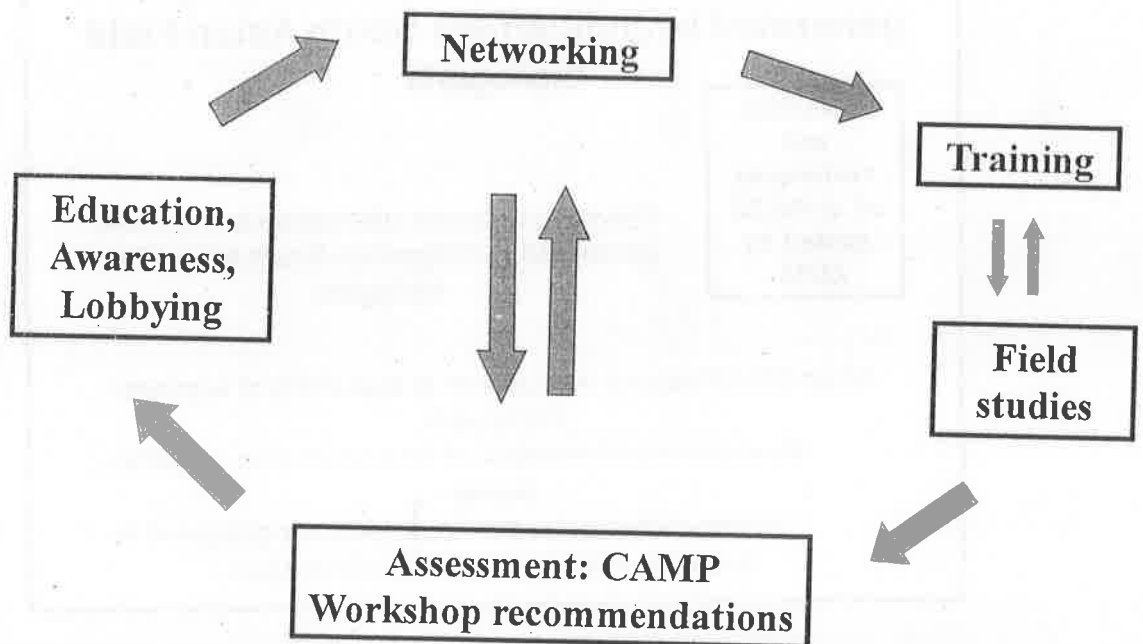
Activities
and
techniques
of SANIZE
guided by
ZOO...



Information
provided by CAMP
Reports are
excellent reference
for educational
material

*Both PHVA and CAMP rely on working field biologists,
stakeholders for current information*

Conservation Action Model



**Three tiered Education Program
Education / Awareness / Action Programs**

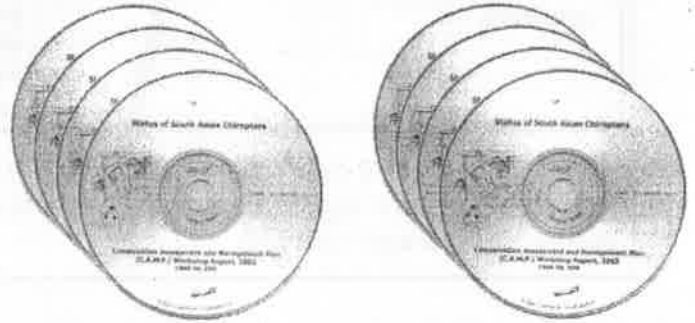
Level 1 - policy	Policy-makers, bureaucrats, professional forest-ers, wildlife officials, wildlife biologists, academics	CAMP REPORT - variants, from complete report for scientists to salient points for policy makers
Level 2 - layman	Common man, from both urban and rural areas, educated and non-educated, English speaking & vernacular	CAMP information attractively typeset and formulated appropriately for general reading or for use in group activities, Material on special issues in vernacular
Level 3 - students	Young people from 6 - 16	CAMP output information of interest to youngsters and made palatable for different ages. Packets to use in zoo, NGOs, wildlife areas, school, and museums.

Within a year, two bats (Wroughtons free tailed & Saim Ai's Fruit Bat) status on Indian wildlife legislation upgraded on the basis of CAMP Report, educating policy makers and lobbying.

Information provided by *CAMP Reports* - fodder for public education

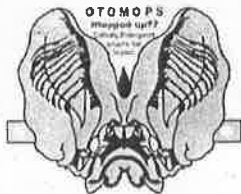
Activities and techniques of SANIZE guided by ZOO...

- Threats for each species
- Trade information
- Population numbers (maybe)
- Legislative status
- Conservation breeding information
- Lists of specialists
- Threat status (IUCN) of all species

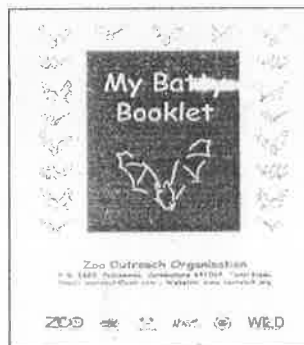


information for all levels of people.

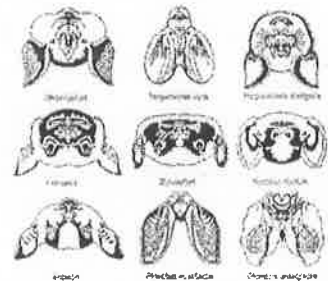
CAMP follow up: materials developed....



Activities and techniques of SANIZE guided by ZOO...



JUST BATS ! ... ABOUT BATS !



BATS ARE GOOOOOOOD ANIMALS !

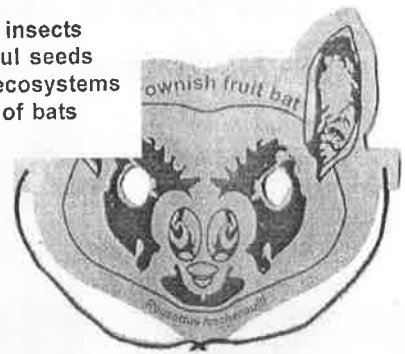
Bat Appreciation Programme Kit

Designed and produced for CCINSA (Chiroptera Conservation and Information Network of South Asia) by Zoo Outreach Organisation & ZOO'S PRINT Printing Unit, Box 1683, Coimbatore 4, TN, India

CAMP follow up: materials developed....



Bats eat harmful insects
And spread useful seeds
True friends of ecosystems
Save all species of bats



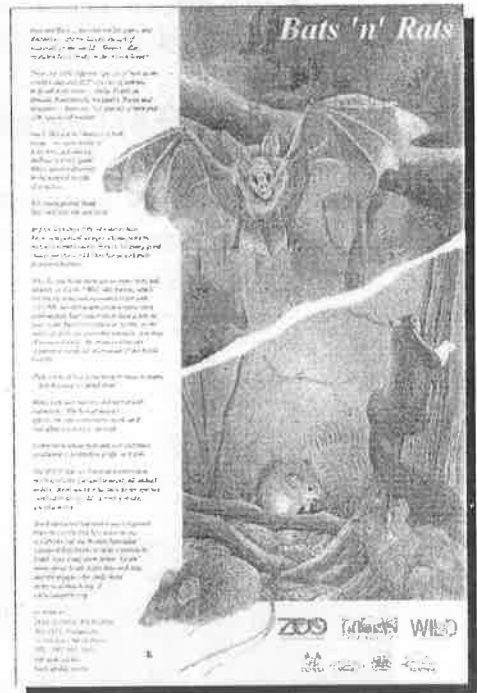
My
batty
booklet



CAMP follow up: developed materials for bat club...



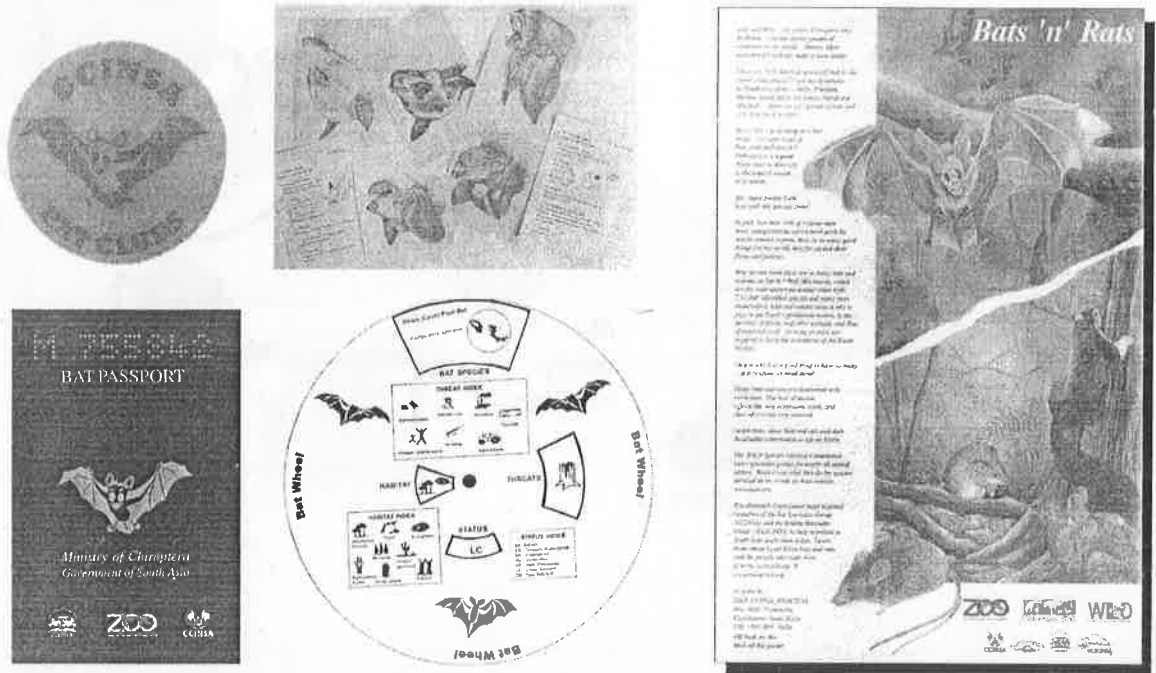
Designed a poster



ZOO encouraged field biologists to become educators

CAMP follow up: developed materials for bat club...

Designed a poster



ZOO encouraged field biologists to become educators

- We encouraged field biologists, foresters, wildlife officials, zoo personnel, academics, etc. to take some responsibility for education
- Their (FB) interest and expertise can make them an excellent educator for any target group and it ultimately help species conservation by support of local people.
- You need not wait for others to do your education program instead you do.

Activities and techniques of SANIZE guided by ZOO...

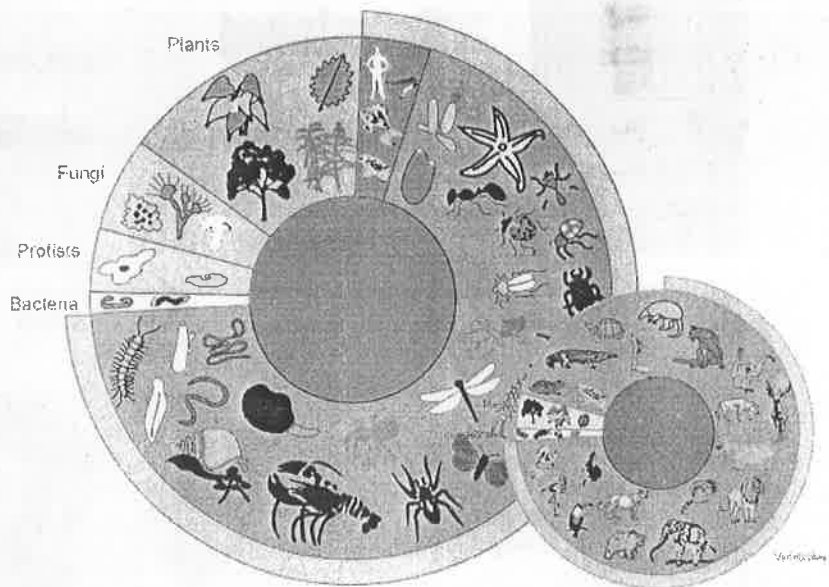


Some education Programmes in India



Addressing the massive biodiversity of Asia
(Non-charismatic mini-vertebrates and invertebrates)

Activities
and
techniques
of SANIZE
guided by
ZOO...





threatened primates



... because of habitat loss, hunting, trapping, development and other human activities...





Vanishing vultures . . .

How to keep the Earth clear when they're gone!

AN INDIAN VULTURE
CULTURE
Colouring Book of Verse



VULTURE shock!

© vultures!
What will we do . . . without you?



Go Gharial!

Go back to survival

Helping Herps
SARIN ZOO WILD
SARIN ZOO WILD
SARIN ZOO WILD

Gharial (Gharial)

Once saved by dynamic conservation action, they nearly lost it all due to nothing but neglect.

GO BACK TO SURVIVAL!

Work for Gharial Revival - throughout Chambal River

Go Gharial!

AN INDIAN WILDLIFE PRIORITY

AMPHIBIANS: GLOBAL WARNING!

If THEY survive, WE survive too

AMAZING AMPHIBIANS

AMPHIBIANS ARE GREAT

They are everywhere! They are everywhere!

They are everywhere!

Frog Talk

tan families of India

13 families with more than 225 species in India, Nepal and Bhutan

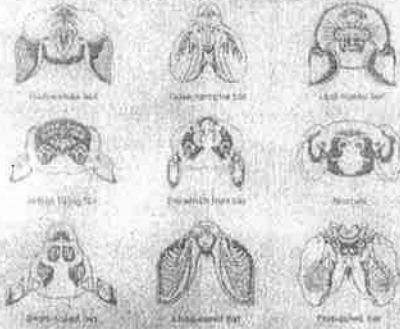
More than one way to Survive!

Only in the Western Ghats!

AMPHIBIANS!

Give Amphibians Right of Way!

JUST BATS ! ABOUT BATS !



**BATS ARE GOOOOOOOD
ANIMALS !**

Bat Appreciation Programme Kit

Developed and produced for CCIRSA (Charitable Commission and Education Trust of South India) by Zoo Outreach Organisation & WILD (Wildlife Welfare Institute) in 1983. Co-ordinator: T. S. Srinivasan. Co-ordinator: T. S. Srinivasan. Co-ordinator: T. S. Srinivasan.



Participation Certificate

This is to certify that

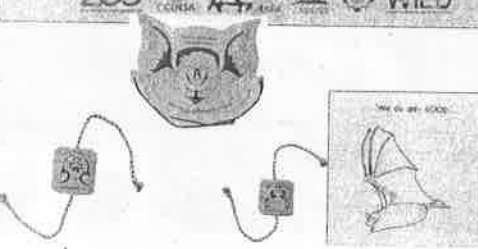
attended the Bat Appreciation Education Programme
conducted by



My Batty Booklet



Zoo Outreach Organisation
P.O. 1683, Park Road, Coimbatore 641004, Tamil Nadu
Email: zoooutreach@rediffmail.com, Website: www.zoooutreach.org



BEARS ON THE ROAD NOT IN THE FOREST

**FUN FOR BEARS ?
ABSOLUTELY NOT !**



HELP KEEP BEARS IN THE FOREST - DON'T WATCH BEAR SHOWS

BEAR PATROL

BEAR PATROL is a free service provided by the Wildlife Welfare Institute, Coimbatore. It provides a 24-hour helpline for reporting bear sightings and incidents. The helpline number is 0426-2611111.

How to use this KIT

This kit is designed to help you identify bears and report sightings. It includes a checklist of bear characteristics and a map of the region. Please use this kit carefully and report any sightings to the Bear Patrol helpline.

It's Indian Law

The Wildlife Protection Act, 1972, is the primary law governing the protection of wildlife in India. It provides for the protection of various species of animals, including bears. The act also provides for the establishment of national parks and sanctuaries.

ABCs

A always
B be
C caring for
D daily-life wildlife
E everyday
F forever

BEAR PATROL

OFFICIAL IDENTITY CARD

Name: _____
Address: _____
Phone: _____

How would YOU feel

so you can be a
wildlife welfare
-heroic
-ing
logist

AMPHIBIAN Biodiversity Crisis...

CONSIDERED 2010

2010 is the official Year of Biodiversity



Appreciate All Amphibians

amphibian ark

2010 - SAVE AMPHIBIANS!

ALL FROGS ARE AMPHIBIANS, BUT ALL AMPHIBIANS ARE NOT FROGS!

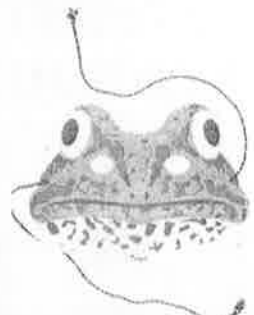
bedome 66 (NT)

Small Tree Frog (NT)

Term Cricket Frog (LC)

Bumpy Toad Frog (NT)

10cm (LC)



AMPHIBIAN An Art Ark

Mind your **Monkey Manners**



MONKEY MANNERS

Misplaced Monkey Mischief - How to Handle



STOP FEEDING MONKEYS IT HURTS THEM AND YOU

7 MONKEY MENACE?

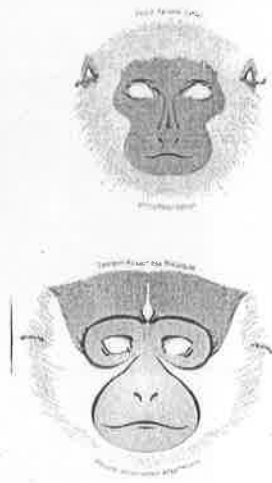
THE THREE WISE MONKEYS

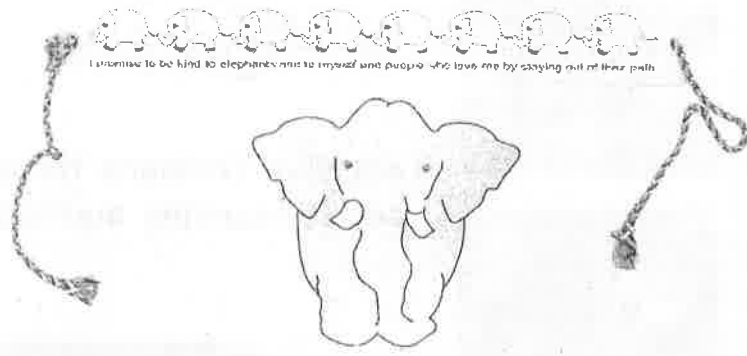
We wish monkeys want our own forests so that we don't have to come to cities, towns and villages and harass humans for food

PROTECT MONKEYS ! DO NOT FEED THEM.

Today....

Tomorrow....





I won!

2010



Human Elephant Conflict

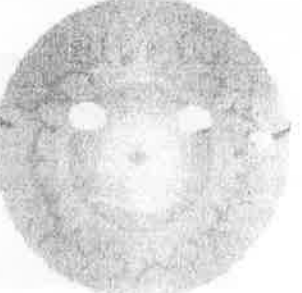
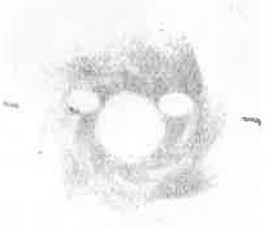
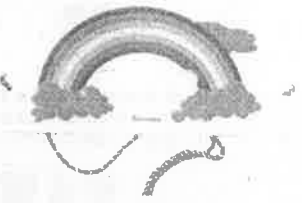
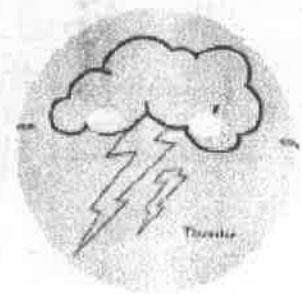
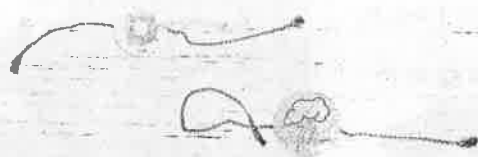
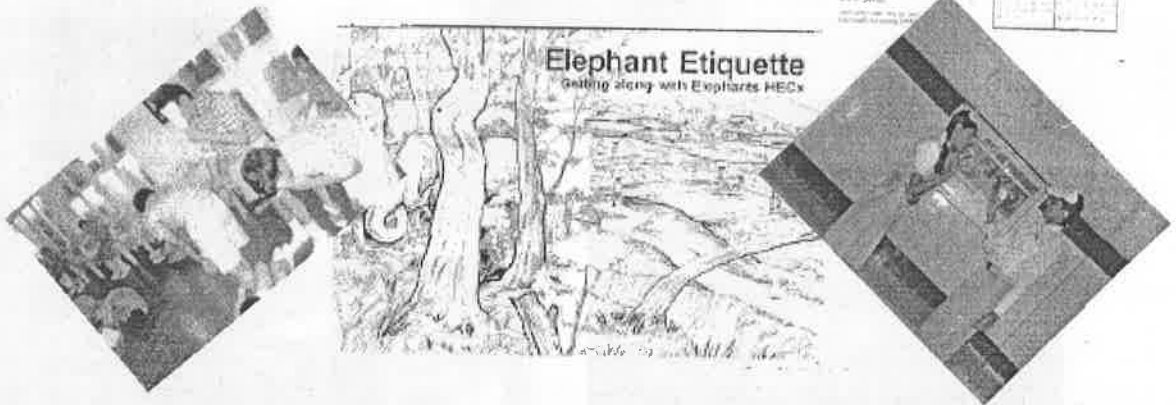
Human-Elephant conflict (HEC) is a complex issue that involves the interaction of human and elephant populations in the same area. This can lead to various types of conflict, such as crop raiding, property damage, and even human casualties.

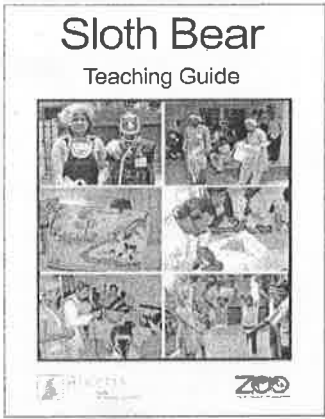
There are several factors that contribute to HEC, including increasing human populations, land-use changes, and habitat fragmentation. As human settlements expand into areas traditionally inhabited by elephants, the two groups are more likely to come into contact.

HEC can have a significant impact on both humans and elephants. For humans, it can result in the loss of property and livelihoods. For elephants, it can lead to the destruction of their natural habitat and the loss of their way of life.

There are a number of strategies that can be used to reduce HEC, including the use of deterrents, fencing, and community-based conservation programs. It is important to find ways to coexist with elephants and to protect their natural habitat.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monday												
Tuesday												
Wednesday												
Thursday												
Friday												
Saturday												
Sunday												





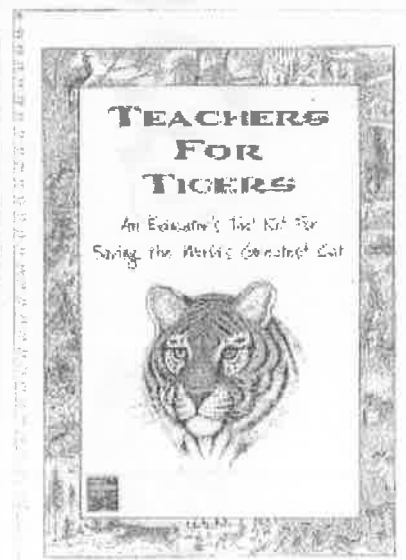
Teaching Trainers through active learning methods



Help(ing) Hoolock Gibbons Hang on



A Manual to make Every Teacher a Conservationist and Every Conservationist a Teacher





Thanks a lot

R. Marimuthu
Zoo Outreach Organisation
Coimbatore, India
E-mail :
marimuthu@zooreach.org

Master Education Plan for Zoos of India

CEE

Centre of Environment Education

The Need

- Recognition of Zoo Rules, 1992, and National Zoo policy, 1998 emphasize the requirement of Zoo Education Plan for the visitors.
- Each zoo should have a well drawn up plan for educating the visitors as well as others.
- CEE is honoured to have been entrusted by the Central Zoo Authority (CZA) to collaborate on the development of Master Education Plan for Zoos of India.
- The challenge of developing an Education Plan for zoos of India is indeed unique. Firstly the numbers who visit are very large.
- Visitors come from extremely varied backgrounds and are of all ages. Developing a programme which caters to such diversity is not easy.
- Secondly while we want to help people understand the animal in the totality of their environmental context, in zoos they are usually constrained by

How to do Zoo Education?

Summary of the EAZA Education Standards

1. The education role of the zoo is to be clearly stated in its written mission statement.
2. The zoo must have a written education policy identifying components and setting out the methods by which these components are directed towards the different sections of the zoo's visitor audience. zoo education should target all visitors, not just schools.
3. The zoo must demonstrate that it is carrying out its education policy, by reference to specific projects, attendance figures, evaluation procedures and research.



CZA's guidelines for Interpretation facilities

Animal-habitat relationship, population, dynamics, animal adaptations, animal evolution, ecological role of animals are some of the important areas for interpretation. Interactive devices to get some feel of main strengths of various species, history of animal management in zoos through obsolete animal exhibits- may also interest the visitors.



WILDLIFE BUDDIES



Wildlife Buddy

Student volunteers enriching zoo visits of the visually handicapped and the disadvantaged.



Student Volunteers

Student volunteers engaging young visitors with frog origami and creating frog-friendly habitats.



4. At least one member of staff within the institution should be responsible for professional implementation of the education policy.
5. Enclosures must clearly and correctly identify the animals in them. Signs should highlight threatened species and species in regional, national and international coordinated breeding programmes.
6. When animal demonstrations form part of the programme, they must contain an education or conservation message.
7. For education programmes to be successful, zoos must exhibit animals in the best conditions possible, in enclosures that enable them to live as naturally as possible and to exhibit natural behaviour as far as possible.
8. Interpretation and education should be an integral part of zoo exhibits; the educator should be involved in the exhibit planning and collection planning process.
9. A reference library appropriate to the size and complexity of the zoo should be maintained and made available to all staff members, and possibly to the public where practicable.
10. Resource material and education information should be made available to the general public and zoo audience. This might include leaflets, guidebooks, teachers' notes, resource packs and worksheets, which should be displayed and available.

A Blueprint for Zoo Education

- Zoos often do not have a framework within which to plan an active education programme that is responsive to the needs of users and is available for the majority of the time.
- Having clarity about the what, why and how of zoo education, as well as concrete guidelines and ideas on how to make this happen effectively.

Developing the Master Plan

- **A Master Plan** creates a vision that is supported by policies, guidelines and priorities; it supports the coordinated growth of the separate facilities and functions to achieve the specific objectives.
- The process of development of a Master Education Plan for Zoos has provided a tremendous opportunity to understand the needs, opportunities and possibilities the educational opportunities zoos can offer.

Master Education Plan for Zoos of Developing India

- The Master Plan developed deals with all these issues and more.
- It is a report that is a result of extensive discussions and research.
- Directors of zoos from all over India participated over several meetings.
- Almost all zoos in the country were visited and extensive secondary research was also done.
- The report therefore reflects not only innovative ideas but also the rich experience of educational programmes carried out in zoos across India.
- The plan faces these challenges, shares experiences and gives a direction for the future.

What is the Master Plan for Education

- A Master Plan can be seen as a comprehensive plan to guide the long-term development of a particular activity or area.
- A Master Plan creates a vision that is supported by policies, guidelines and priorities; it supports the coordinated growth of the separate facilities and functions to achieve the specific objectives.

Developing the Master Plan : Methodology and Process

- A baseline study was conducted with an objective to review the existing, ongoing as well as future zoo education programmes, activities and facilities offered by zoos, to assess the training needs of the zoo staff in the area of zoo education, as well as to understand the visitors to the zoos of the country.
- To do this the CEE project team planned surveys, zoo appraisal visits and workshops in various parts of the country.

Methodologies adopted for Developing the Master Education Plan

Mail Surveys

- A questionnaire was developed to compile secondary data from various zoos of the country on the existing situation with reference to zoo education.
- The questionnaire was designed to get basic information on the existing interpretive, educational, and other facilities offered by different zoos of the country.
- Questionnaire included both closed and open ended questions. Questionnaires were sent to 135 zoos, but responses were received from 45 zoos.

Zoo Appraisal Visits

- To get a more clear and accurate picture of the existing system of zoo education in India, 40 zoos of various categories (Large, Medium, Small and Mini) were identified across different parts of the country, for conducting a field survey.
- To carry out the field survey various types of questionnaires were developed for different target groups.
- Research tools including a checklist of facilities offered by zoos and questionnaires for different levels of zoo staff (including zoo directors, curator, education officers, veterinarians and keepers) were developed

Main areas of Zoo Education which were looked into during the zoo appraisal visits

- Interpretation,
- Education & Outreach,
- Training & Capacity building and Networking
- Sustaining Zoo Education

Visitor surveys

- For developing the Master Plan it was critical to understand the visitors to the zoos of the country. In order to do this visitor surveys were carried out in different zoos of the country.

Regional Workshops

- Four regional workshops were arranged at Delhi, Chennai, Darjeeling and Ahmedabad to cover North, South, East and Western regions respectively.
- Apart from sharing the team's experiences from surveys and field visits, one of the main objectives for conducting the four regional workshops was to get inputs on key areas of concern towards zoo Education from zoo directors, zoo managers and other stakeholders in the area of Zoo Education, as these are the people who are actually going to implement the Master Education Plan in the field.
- Got inputs from zoo staff on constraints/limitations, strengths/opportunities and possible collaborations in the four areas, participants also shared their individual experiences in zoo education through different presentations.
- The workshop provided a good forum for networking and played a key role in facilitating interaction amongst Zoo Directors and zoo staff from various zoos who came to know about the varied programmes and activities happening in other zoos of their region.

Main Thematic areas identified

- Understanding the visitors to the Zoo
- Zoo Interpretation
- Education and Outreach activities of zoos
- Training and Capacity building
- Networking
- Sustaining Zoo Education
- The Master Education Plan developed presents an overview of the existing situation based on findings from the surveys, and site visits, as well as experiences shared during regional workshops.
- It includes a listing of some main constraints/limitations, as well as strengths/ opportunities and possible collaborations in the four areas, as well as recommendations from zoo staff across the country and the project team.
- The Plan also presents recommendations, guidelines, examples, and relevant reference material which can provide inputs for initiating, strengthening, reviewing and enhancing the educational mandate of every zoo.

Understanding Visitors to Zoos in India

The survey was done to:

- Get a first hand feel of the visitor trends in a few selected zoos and to provide a general idea of visitor composition, their educational status, the frequency, duration and time of visit etc.
- Know the purpose of visit to the zoo
- Understand visitor preferences with regard to exhibits, programmes and activities offered by zoos.

Study Area

- Several zoos from six different regions across India were selected based on size, socio- cultural and geographical locations. The selected zoos, include different categories, (large, medium and small) and were located across different regions of the country (North, South, East, North-East, West, Central).

Methodology

- Questionnaire based on one-to- one interviews
- A pre-tested questionnaire with both closed and open ended questions was developed. The questionnaire was developed in two languages (Hindi and English).
- The final questionnaire, survey methodology, the sample size and zoos to be covered was finalized in consultation with experts from the Indian Institute of Mass Communication (IIMC), New Delhi.

Qualitative Survey

- Apart from one-to-one in depth interviews with the visitors, CEE team also carried out site visits to few zoos of various categories (large, medium, small, mini), across the country.
- Apart from the objective of knowing the existing status of zoo education in various zoos of the country, the survey also included observation of the kind of visitor facilities offered by zoos, visitor behaviour in the zoo and interaction of zoo visitors with the staff of the zoo.

Mail Surveys

- Before starting the site visits, inventory forms were sent to 135 zoos across the country.
- The purpose of the forms was to collect information on the educational facilities offered by the zoos in the country. This was useful for secondary data collection.
- The inventory forms also helped to get an idea of the visitor profile of the zoos. The findings are from data received from 45 zoos.
- Respondents were of varied educational background and occupation. Large number of respondents were graduate and post graduate
- Only a very small percentage of respondents were in the category who had never been to the school.

Key findings

- Annual Visitation: A review of annual visitation
- Visitor Profile: Data for Season of Peak Visitation: Data collated showed that vacations are the peak season of visitation for maximum zoos, and rainy season is the lowest visitation season.
- Entry ticket: Inventory data showed a variation in the zoo ticket charges. Why do they visit the zoo?
- For 58% of people, zoo visit was a family outing, 38% respondents came along with friends and 4% accompanied guests to the zoo.
- For 25% of people, recreation and enjoyment was the main purpose of their visit, 24% people came to the zoo because they were fond of animals and 22 % of people came to gain knowledge and learn about animals.
- Equal number of respondents (12%) visited zoo due to insistence of children or to see a new place of the city.
- Though there were various purposes of the visit but 94% respondents said that they enjoyed the zoo visit.
- Motivation factor: In a multi response question, "what motivated you to visit the zoo?"

Issues

- Vandalism
- Visitor facilities
- Public amenities
- Zoos support environment friendly practices - Many zoos are practicing ban of polythene bags inside the zoo. Such efforts are indirect interpretation methods to make visitors aware about the natural feeding habits of the animal and how polluting zoo with plastic could harm zoo animals.

A valuable educational and cultural resource

- Zoos therefore are a valuable educational and cultural resource.
- Everyone should have the opportunity to experience and learn about wildlife at first hand while entering into zoo.
- Recognition of Zoo Rules, 1992, and National Zoo policy, 1998 emphasize the requirement of zoo education plan for the visitors.
- Each zoo should have a well drawn up plan for educating the visitors as well as others.

Thank you!

Networking and Partnerships

Communication plays a key role in establishing and shaping the mission and vision of the zoo and thereby to facilitate linkages and partnerships. The role of communication in context of zoos and education has also evolved over time.

Today it has three key dimensions:

- Communication to attract visitors and increase park income.
- Communication to win allies (the media, corporates, government departments, entities and conservation organizations).
- Communication for conservation.

World Zoo and Aquarium Conservation Strategy recommends that all zoos and aquariums and their associations, no matter how large or small, design and implement a communication strategy.

This should include the following basic steps: define the overall communication goals, identify the target audiences, decide key messages, choose tactics and methods; identify resources available and needed, and develop monitoring and evaluation techniques.

The audience: Visitors are the key audience, but the zoo community also needs to reach out beyond them to the media, academics, influential public figures, educationists and potential sponsors and supporters.

Strategic plan: Communicate quickly and effectively with each other, with media, and other relevant partners (NGOs, educational institutions, corporates, government departments, etc.)

Skill building: Marketing skills should be a part of the senior managements' profile, and these should be developed through trainings, exposure and networking with relevant institutions.

Marketing: Marketing should be fully integrated as part of the zoo's numerous activities

Promoting the Zoo

The mission, vision and work of the zoo need to be promoted for many audiences:

- Public in the zoo.
- Public outside the zoo.
- Specialist audiences.
- Conservation and animal welfare organisations.
- Educational institutions.
- Decision makers and governments.
- Companies that might promote zoos.
- The Media.
- The Anti Zoo lobby.

Linking Up

Zoos must explore possibilities of a variety of partnerships or linkages. Through collaboration, each institution can strengthen each other's work to mutual benefit.

Eg. Schools - Celebrating 'green days' of the year

- Identification of curriculum linkages with wildlife-related topics and offering training to teachers
- Making school students as zoo ambassadors
- Teachers could be asked to give wildlife related topics as vacation projects to students, to be done in the zoo.

Networking Among Zoos

All zoos should be members of regional or national associations. Networking among zoos at local, national and global levels is very effective for information exchange, learning from one another, and benchmarking.

- International Zoo Educator's Association (IZE)
- South Asia Network of International Zoo Educators (SANIZE)
- South Asian Zoo Association for Regional Cooperation (SAZARC)

Networking through Training Opportunities

The Central Zoo Authority (CZA) which is the Regulatory body for all the zoos of India, in itself is a good forum for networking as CZA sponsors various workshops, meetings, conferences etc. for various level of zoo staff on different aspects of zoo management of which zoo education is also a part.

Marketing and Fund raising at Zoos

For marketing, zoos need to know their Unique Selling Propositions (USP's).

Sponsorship

Zoos can explore sponsorship from various sources like:

- Local banks
- Corporate agencies
- Tourism department
- Municipal corporation
- Mobile phone companies
- Hospitality industry

Animal Adoption Scheme

Adoption of captive animals is an old practice in zoos of the world and now zoos in India are picking up this activity very fast.

Corporate Sponsorship

The benefit of zoo sponsorship can include display of your company's logo at special events to having an exhibit named for your company, as well as special mentions in zoo publications.

Travel agents

Travel agents through the tourism department can create awareness about the zoo and market the attractions and unique facilities offered by the zoo.

Institutional Linkages

Institutional linkages with School of Planning and Architecture and architects, civil engineers, communities in and around the zoo, Non-governmental organizations

Zoos and Media

Press articles should consist of follow up articles on the zoo activities like, animal exchange, animal adoption, celebration of birthdays, wildlife week etc.

- Magazines
- Newsletters

Many zoos have a 'Friends of the Zoo' initiative through which individuals or corporates can help support zoo activities

Websites

Zoo ticket rates, opening and closing times, special happenings at the zoo all this information is made available on the zoo website.

ZooNews Digest

ZooNews Digest has readers in over 600 zoos and aquariums in over 80 countries around the world. It is the widest circulated zoo periodicals
zoo-biology@yahoogroups.com

Zoo branding

- Various components could be involved in branding:
- Print products- stationeries, newsletters, mailer, redesigning of all these into a creative and exiting format was proposed.

Electronic Media- Designing and hosting of a website, production of CDs and DVDs for multimedia presentation of various exhibits events and facilities of the zoo.

Event management Summer and winter packages , classes and workshops for training children and teachers, celebration of special days, information fare, etc.

- Zoos represent a unique mix of technical and interpretative expertise, legal and environmental ethics, and biological diversity. There is a growing trend for them to cooperate with each other and with other government and non-government organisations and build relevant linkages and partnerships. Such networking is an important factor for developing and sustaining effective zoo education programmes.

World Zoo and Aquarium Conservation Strategy.

Who Are We?

- Our parent company is Wildlife Reserves Singapore (WRS)
- Our shareholders are Temasek Holdings
- We manage three attractions – Jurong BirdPark, Singapore Zoo and Night Safari

Who Are We?

- 18-time winners of STB Best Leisure Attractions, out of 22 times
- Night Safari won the inaugural Best Visitor Experience Attraction award on 9 November.

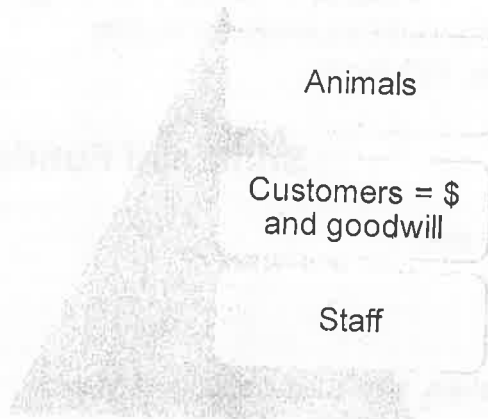
What We Stand For

- **Vision** – To be the foremost zoological institution in the world.
- **Mission** – To inspire an appreciation of nature through exciting and meaningful wildlife experience.

Five Core Values

- **Respect & Care For Wildlife** – love our flora and fauna, and treat our animals in a dignified manner.
- **Commitment To Excellence** – Improve our level of standards with changing times; not satisfied with status quo
- **Creative & Innovative Thinking** – Add values to the interest of people, animals & community
- **Focus On Guests** – regard our visitors as guests at our home; committed to provide memorable wildlife experience.
- **Pride Of A Professional** – We walk the talk for conservation, education and research.

Do Well, Do Good



Four Pillars Of Strength

- Conservation and Research (animal collection, breeding endangered animals and various research projects)
- Education
- Marketing and communications
- Service excellence

The People Behind

- Zoology – core department
- Conservation and Research
- Veterinary
- Exhibit Design
- Maintenance

The People Behind

- Horticulture
- Operations
- Maintenance
- Education
- Human resource
- Marketing
- A&P
- Corporate Communication
- Sales
- Corporate Development (fund raising)

Visitor Profile For Zoo

- Zoo – 75% locals, 25% tourists
- Locals – mainly families with young children, school groups
- One child brings in two adults

Visitor Profile For Night Safari

- The first in the world, must-see for tourists
- 85% tourists, 15% locals

Source of Funds

- Admission – over 40%
- F&B – about 20%
- Retail
- Donations
- Others (memberships, trams, educational services)

Venues For All Occasions

- Staff retreats, workshops
- Product Launches
- Dinner and Dance
- Birthday parties – kids, ah ma, ah gong,
- Free admission and surprises for birthdays
- Weddings
- Reunion dinners, Valentine's Day, Mother's Day

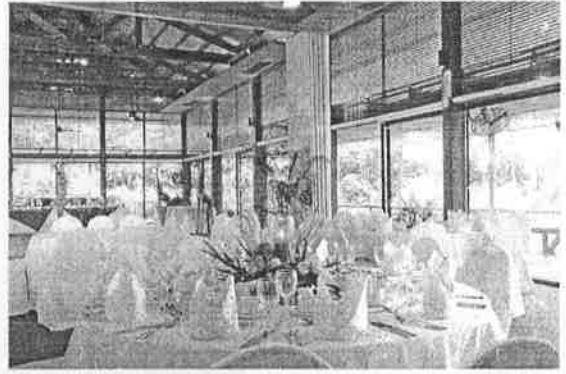


Dining With Wildlife



Lunch With Lions

Forest Lodge



Pavilion By The Lake



Chief's Room @ Ulu Ulu



Ulu Ulu Court – World Gourmet Summit



Gourmet Safari Express



USP

- Setting – the elements of jungle and water
- Animal appearances, horse carriage and elephant rides
- Concept dining
- Themed parties

Communications

- Brand advertising
- Tactical advertising to tie in with A&P efforts, promotions, events, to drive visitorship
- Corporate communications – PR angles for newsworthy events, stories, personalities, etc.

- nature conservation
- animal care (specially pre and post natal care of animal), public relations,
- solid waste management,
- to make use of zoo for curriculum,
- tranquilization, animal physiology, security and safety,
- conservation education,
- healthcare and nutrition, patrolling
- importance of having zoos,
- concerns for animals, zoo education,
- breeding, managing emergencies, etc.
- Before developing a training programme, the objectives of the training need to be defined. These may be derived based on the outcomes of the needs assessment, the overall mandate and objectives of the zoo
- Once the objectives are set, the programme content and schedule can be developed so as to cover these. Then there is need to identify the appropriate resource persons to tackle the different topics. These could be in-house or from institutions (colleges, research organizations, communication/education NGOs).
- To develop better interaction between keepers and visitors.
- To orient the keepers to their role as educators
- To enhance their knowledge (about the animals and other zoo-related areas).
- To introduce skills and techniques for visitor interaction.
- To build confidence and self-esteem of the staff as they perceive themselves in a new role.
- To develop better interaction and coordination between zoo staff and management.

Some examples

Teacher Orientation

Teachers may need to be oriented to:

- The vision, mandate and objectives of the zoo.
- What is the zoo layout and plan (including facilities), animal exhibits (species of mammals, birds, reptiles, others), the other non-captive animal and plant species on the zoo site.
- The educational potential of the zoo to complement and supplement classroom teaching.
- Structured programmes offered by the zoo (if any) for school visits (e.g. zoo trail, meet the keeper/vet, film shows/talks).
- Structuring the zoo visits (ideas for pre- and post-visit activities/discussions as well as the on-site experience).

contd.....

- Curriculum linkages demonstrating how syllabus concepts can be explained through observation, recording and discussing the experiences.
- Resources available to help facilitate their zoo visit (information and activity pack etc.).
- Preparation of teaching-learning materials (e.g. worksheets) for zoo visit.
- An effective strategy is to run a part of the workshop exactly as you would like teachers to carry out with their students.
- This could be followed by a zoo trail facilitated by a guide/education officer.
- Then teachers may be divided into groups and each group assigned a section of the zoo (e.g. mammals, reptiles, birds, big cats) for observation and recording. Prepared worksheets can be given to structure this process.
- Consolidation of observations and experiences and highlighting of relevant concepts linked to the syllabus. This can be done through a variety of environmental games.
- Feedback on the experience
- Once teachers have gone through the 'role-switch', they would be convinced about the effectiveness of a zoo visit as an educational experience. This needs to be facilitated by an Education Officer or a team of environmental educators.

Training for Zoo Staff

Zoo director, zoo keepers volunteers, zoo staff, veterinarians, teachers, students, middle level officer etc.

Areas of training

Zoo management, animal upkeep, animal enrichment, visitor management, visitor interaction, animal management, enclosure and overall area management, etc.

Training for different target groups

Local villagers, environment educators, researchers, ranger, forest guards scouts and guides, zoo educators, teachers etc.

Training for Trolley Operators

Trolley operators in the National Zoological Park, Delhi have direct interaction with the visitors to the zoo. The aim is to train these drivers on communication skills and also to provide a forum for the trolley operators to interact with the zoo officials and share their experiences and problems. Source: ZOOS' Print Volume XIX, Number 6, June 2004(RNI 5:9)

Orientation Programme for Volunteers

The Chamarajendra Zoological Park, Mysore organizes a one day orientation for volunteers. They are briefed on their roles and responsibilities in the zoo, zoo activities which they could be part of and general introduction of the zoo.

Training Programmes for General Public

A Mysore-based NGO, in association with Mysore Zoo, organized a two day workshop on bird's nest-box making. Participation in this programme included students, teachers, retired officials, government officials and businessmen. The various activities included talks and slide show on different aspects of birds nesting (criteria for nesting, nesting season, different types of nest, etc), film shows, field visits and hands-on training on nest making.

Source: ZOOS' Print

Workshops on Noncharismatic Animals

Teachers and volunteers are invited to attend a one day workshop on non charismatic animals for e.g. bats. The workshop involves interactive sessions, talks and slide shows explaining the crucial role of bat in the environment. Workshop also includes field visit to show bat colonies so that the participants could study their behaviour in a natural environment.

Workshops for Local Tourist Departments and Agencies

Some zoos have started organizing workshops to interact with tourist departments, tourist guides etc. so as to make them aware of the importance of zoos and wildlife. This is a good technique also to market the zoo as an important site of the city.

Training for Middle-level Zoo Officers

The Wildlife Institute of India, Deharadun in association with the Central Zoo Authority, Delhi and Kamala Nehru Zoological Park, Ahmedabad organized a ten-day training programme for Middle-level zoo Officers, in January 2008. This ten-day training programme, apart from having training sessions on technical aspects of zoo management, also had a two day session by CEE, on Zoo education and interpretation, including designing and developing signages.

Training for Zoo Directors

The Central Zoo Authority sponsored the participation of Indian Zoo Directors from various parts of the country for the workshop on Fund Raising, PR and Marketing in Zoos. The workshop was organized and conducted by the Centre for Environment Education Ahmedabad as a part of the Fourth International Conference on Environment Education (25th - 27th November, 2007)

The workshop was titled Making Zoo Education Sustainable with special focus on Fund Raising, PR and Marketing

Volunteer Training

A well-organized and trained volunteer cadre can help to meet the ever-present need to augment human resources, especially for zoo education.

Volunteers who have given a long-term commitment need to go through an intensive training programme similar to that for zoo guides.

Need for Linkages

- For training programmes to be effective and to draw upon different experiences and expertise, linkages and expertise can be developed with various organizations/ institutions/expert agencies for sustaining training and capacity building programmes in zoos

Accessing Expertise

- It is understood that zoos would not have all the different kinds of expertise required for capacity building different sections of the zoo staff for taking on an education role.
- What is important is that zoos should build up a database of relevant resource persons and organizations
- In our zoos there is a need for more focused training and capacity building for all levels of zoo staff—from the management to the animal keepers.
- Internships and exchange programmes with zoos of the country and abroad should also be explored, with exposure to the different types and range of programmes executed by zoos all over the world.

Developing a diverse cadre of educators from among the zoo staff and interested individuals would greatly strengthen the education and outreach programmes of zoos.

WRS - THE BEST LIVING CLASSROOMS IN S'PORE

.....where learning comes alive

When and Why Do Teachers Visit Us?

- When they wanted to teach about animals.
- Low priority in primary schools. Science curriculum starts at primary 3.
- What are we missing? Primary 1 & 2.
- What can we do?

Changing Mindset

- Ask what is important to the schools?
- Emphasis on languages and Maths.
- Change the way we see ourselves and the way we do things.
- Change the way our visitors (teachers) see us.

What Did That Lead To?

- Repositioning WRS as living classrooms.
- WRS are choice venues for learning journeys.
- Students come to us to learn Maths, the languages, science, geography, art.
- Students come to us for character development, to gain social experience.
- Most importantly, we create awareness (the first step) when they step into WRS.

What Do We Need?

- Programmes that offer multi-disciplinary learning.
- Resource materials to guide teachers.
- Tell people about the change
- Get help to implement the plan – resources are always limited.

Zoo Trail

- Incorporating Maths, English and Science in the task sheets .
- Developed by primary teachers.

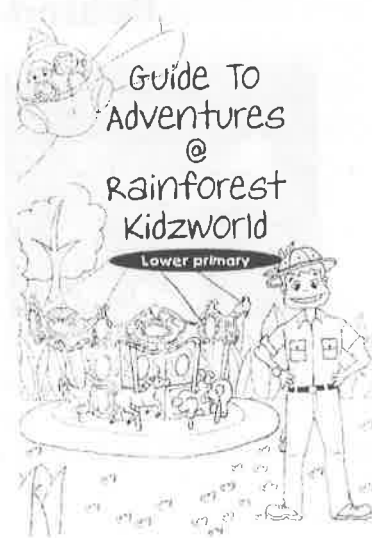
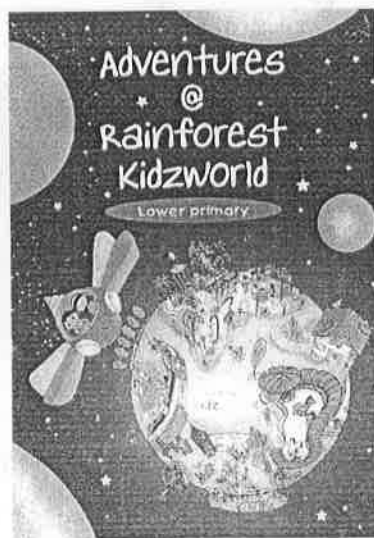


Maths Trail

Two trails – Scott's Trail and Champs Trail

Developed by a professor who lectures train teachers.

Rainforest KidzWorld Trails



Interdisciplinary Trails

- Two approaches
- Guided by Education staff
- Non-guided by teachers (budgetary constraints)
- About 2 or 2.5 hours

LEARNING MOTHER TONGUE

- Use animals as a platform to excite students about the language.
- Use animals that they can relate to through sight, sounds, smell, touch.
- Chinese, Malay and Tamil languages

LEARNING MOTHER TONGUE

- Chinese Curriculum
- P1 & P2 at Zoo, P3 and P4 at JBP.
- Malay Curriculum for P1 & P2 at Zoo.
- Developing P3 curriculum at JBP.
- Tamil Curriculum P1 & P2, pictiory for secondary 1 & 2

Teacher Training Workshops

- Aims to help teachers to plan lessons for their students during their visit to Zoo and JBP.
- To integrate the use of Zoo and JBP's resources for lesson plan of all subjects.
- Duration - 3 full days
- Sponsored by Ministry of Education.

Educational Programmes – offering variety

- * Enrichment programmes
- * Tie in with the school science curriculum.
- * Behind-the-scenes tours
- * Conducted Tours
- * Take 5 programmes (half-hour for pre-schoolers)

Behind-The-Scenes Tours



- Central Kitchen – Linked to dentition and diet.
- All About Creepy Crawlies – Learn life cycles of invertebrates.
- Encounter of the Scaly Kind – Learn how the reptiles are kept and bred.

WILDLIFE HEALTHCARE AND RESEARCH CENTRE

Behind-the-scenes tour



Special Tours & Programmes (1 hour)

- * Hamadryas Baboons – The Great rift Valley of Ethiopia
- * Tropical Crops Plantation
- * Tame Animals Encounter

Camps (1/2 day or 1 day)

- From S\$40.00 onwards
- Highlights of the camp
- Behind-the-scenes tours
- Special Thematic Programmes
- Face Painting

Camps (2D/1N)

- From S\$60.00 onwards
- Price is inclusive of programmes, Zoo and Night Safari admission, food and lodging
- Highlights of the camp
- Behind-the-scenes tours
- Zoo Insights
- Tent Pitching
- Night Safari Tour

Partnership With The Community

- Empowers volunteers to make a difference in wildlife conservation.
- Sense Of Ownership through volunteerism
- Enriching volunteers through serving the larger community

Conservation Ambassador

- Funded by SPH Foundation.
- Undergo training to become guide to visitors in the Zoo and Bird Park.
- Wildlife Buddies
- Train the students to be facilitators so that they will be able to conduct tours for their younger schoolmates.

WILDLIFE BUDDIES



Wildlife Buddy

Student volunteers enriching zoo visits of the visually handicapped and the disadvantaged.



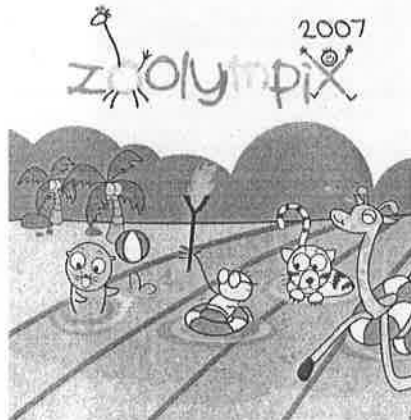
Student Volunteers

Student volunteers engaging young visitors with frog origami and creating frog-friendly habitats.



Zoolympix

Students from ACJC and Dunman High helped out as station masters



Trip To Jeli, Kelantan

- Gongshang Primary School has been raising fund for tiger conservation for last 3 years.
- Funds are used to help villagers in Jeli build paddock for livestock.



Trip To Jeli, Kelantan

- Paddock to hold livestock during the night.
- Prevent livestock from being easy prey to tigers.
- Reduce human-tiger conflict



Partnership With The Community

Docents



ZOO OUTREACH PROGRAMMES

Zoo Goes To Schools

Bird Park Flies To Schools

- Aims to spread conservation messages to the school children in Singapore.
- Characters : Dr. Ooz and Dr Squawk
- S\$300 for the assembly talk
- S\$300 is fully redeemable

Wildlife Wonders Magazine

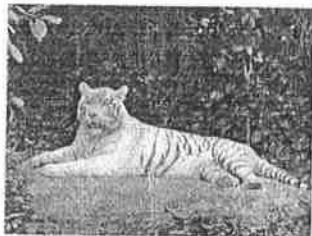
- Interesting facts about animals
- Conservation issues
- Updates on the Zoo
- Dr. Ooz column



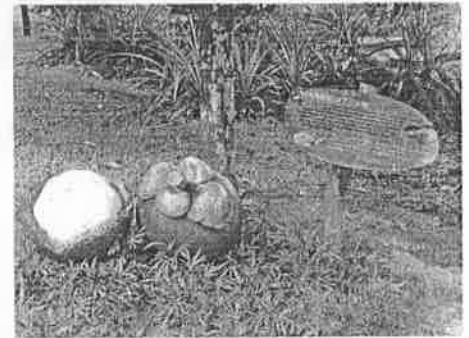
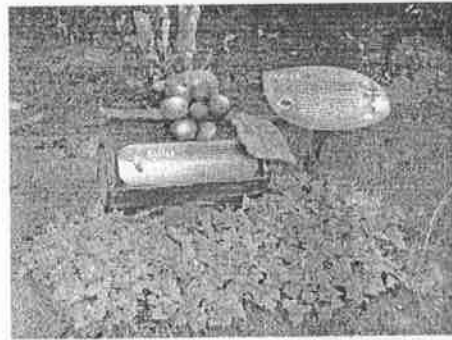
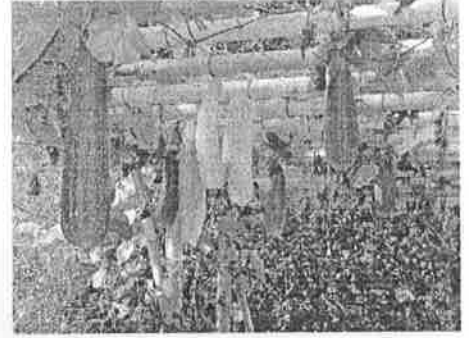
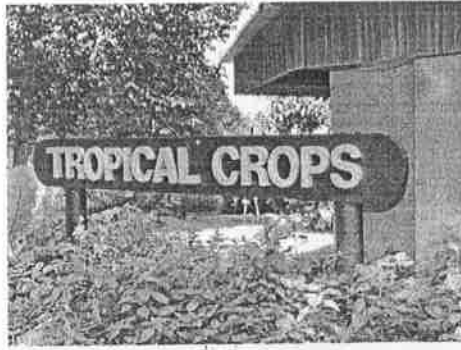
Interpreting our exhibits to visitors



White Tiger



Tropical Crops Plantation



THANK YOU!

VISITORS REPORT ABOUT ARIGNAR ANNA ZOOLOGICAL PARK.

By
DR.A.MANIMOZHI
BIOLOGIST

VISITOR SURVEY

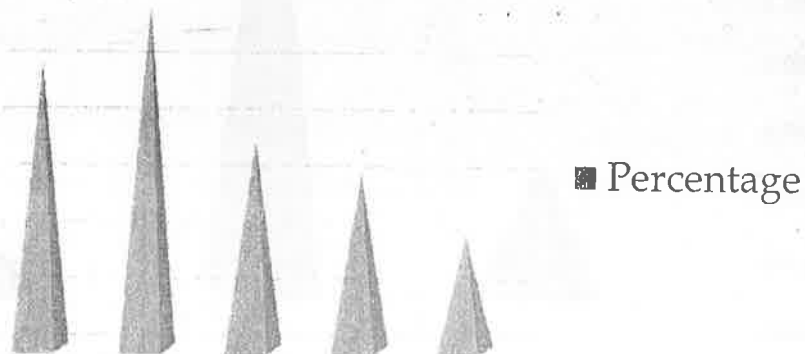
Objectives

- To find out the attitude and expectation of the visitors
- To know the level of awareness about the AAZP.
- To know the status of various education programmes conducted in AAZP

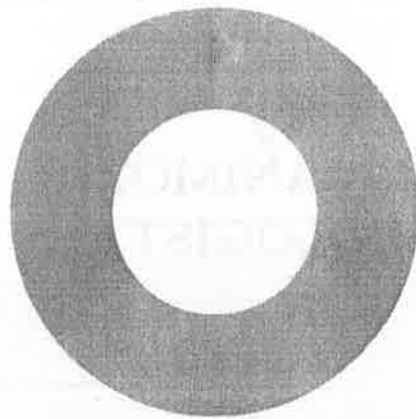
MATERIALS & METHODS

- A standard questionnaire comprised of 44 objective questions
- Social status ,sex, Educational qualification, knowledge about animals, Purpose of visit, Facilities provide d to visitor and animals,Hygenic condition of the zoo,Awareness about various training programme conducted in AAZP
- The survey was conducted between Dec.2004 to Jan.2005.The visitors were approached randomly at the exit point of the zoo after their complete visit. Totally 600 visitors were covered in this study.

RESULTS -AGE

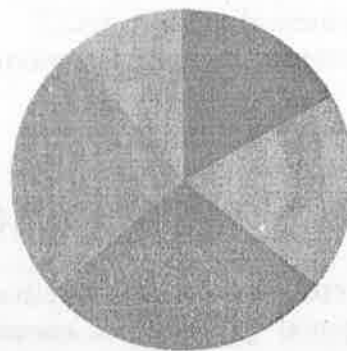


SEX



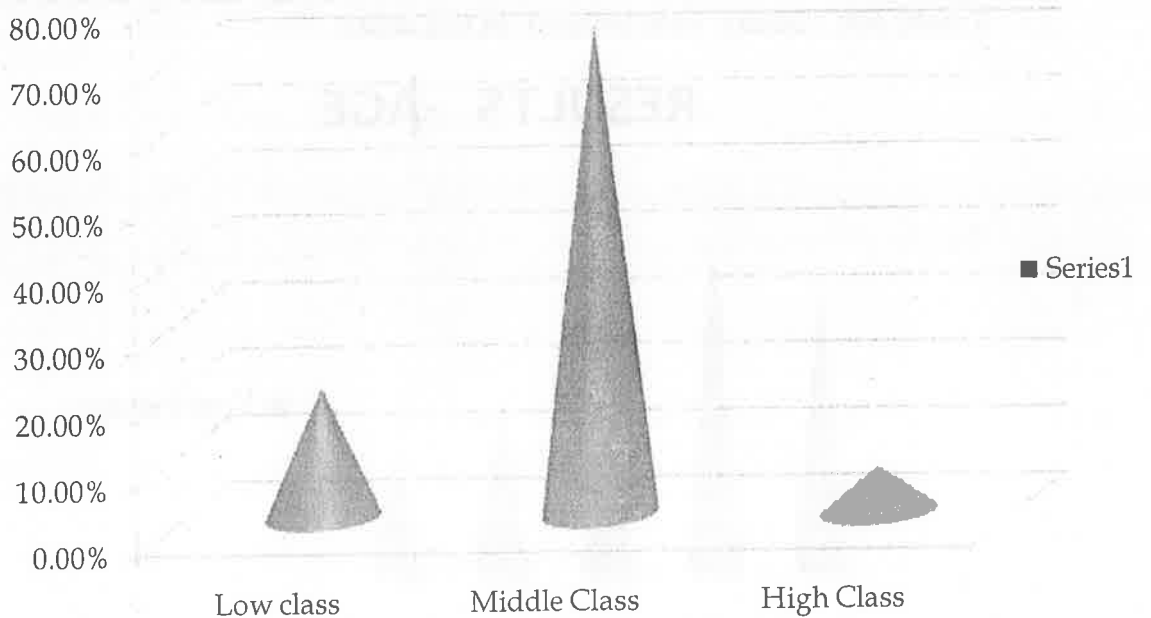
- Sex Male
- Sex Female

EDUCATIONAL STATUS

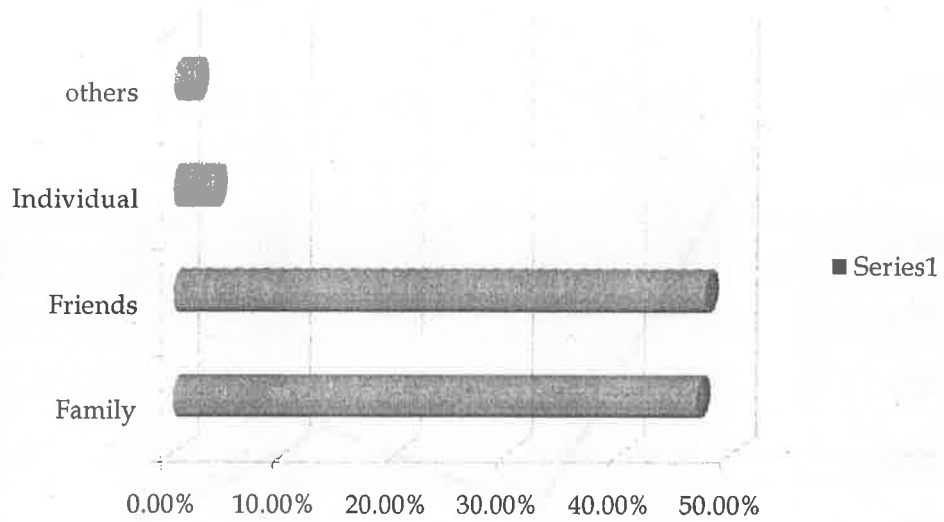


- Uneducated
- SSLC
- 12 th standard
- UG

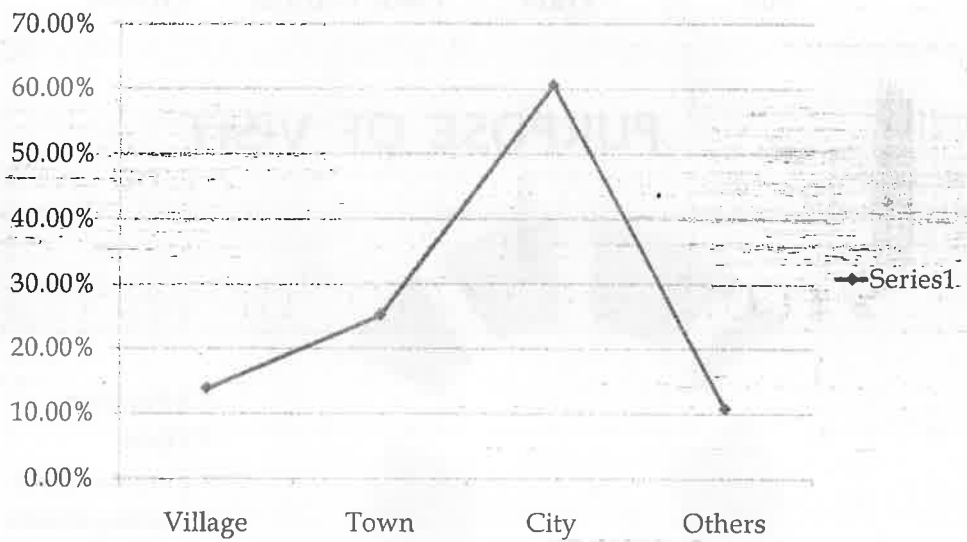
ECONOMIC STATUS OF VISITOR



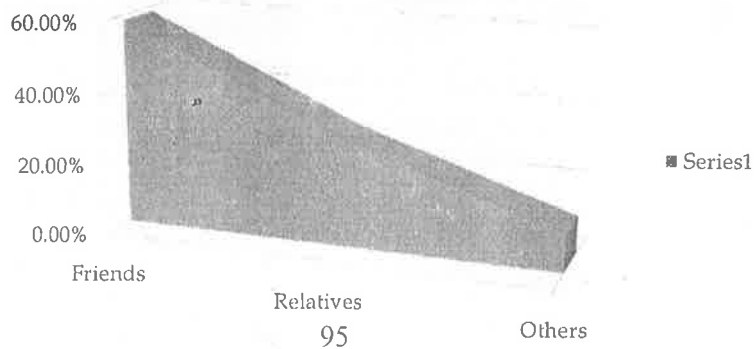
VISITED WITH



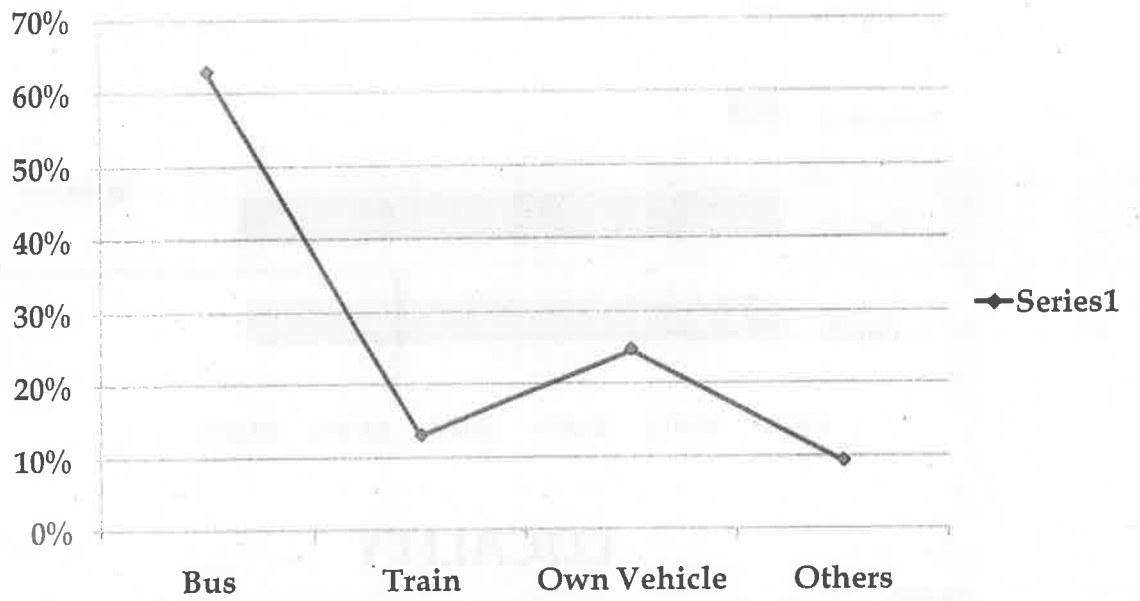
LOCALITY



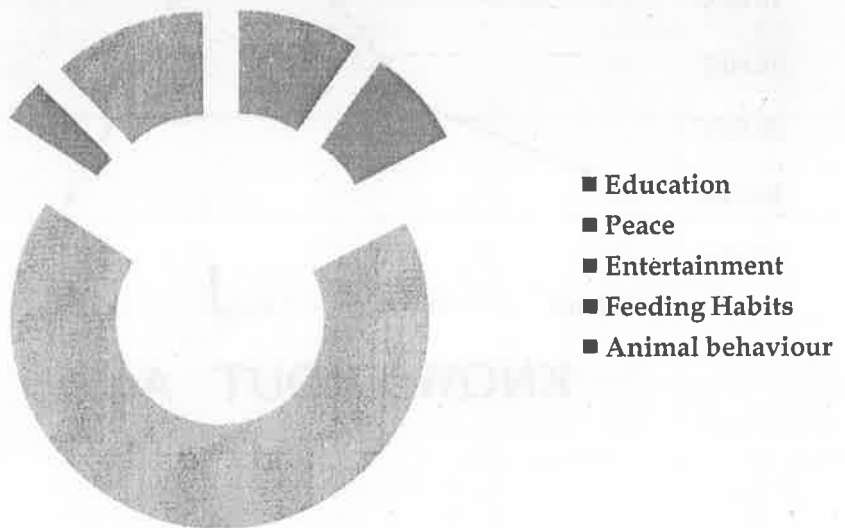
KNOW ABOUT AAZP



MODE OF VISIT TO ZOO



PURPOSE OF VISIT





WOW The Pay Masters!

- Service Excellence – WRS scored 72% for Consumer Satisfaction Index
- Understand the needs of customers and what the event mean to them.
- Attention to details leaves lasting impression

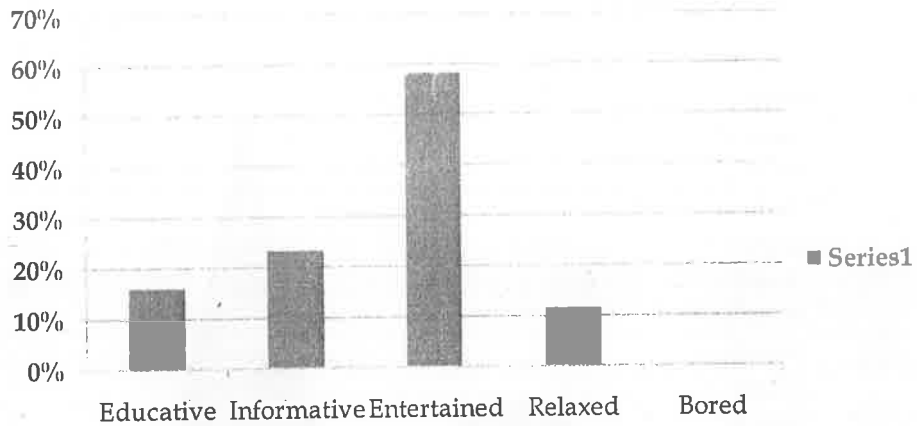
WOW The Pay Masters!

- Create opportunities to give pleasant surprises
- Last minute requests – go the extra mile and they will remember you for a long time.

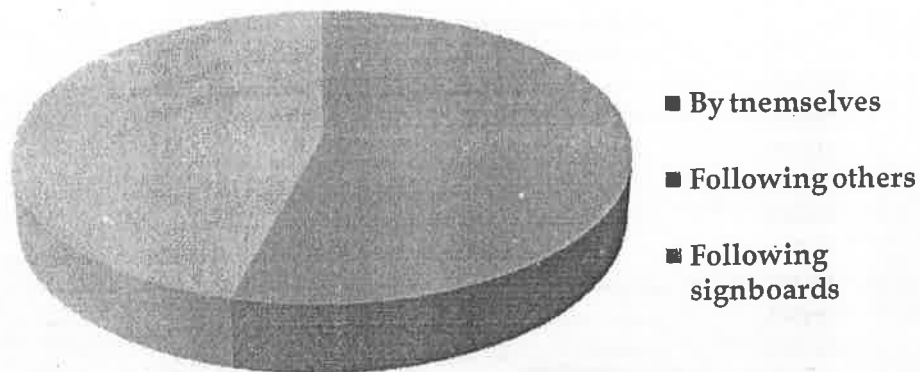
WOW The Pay Masters!

- Most events are organised to create memories.
- Event organisers can help determine the outcome.

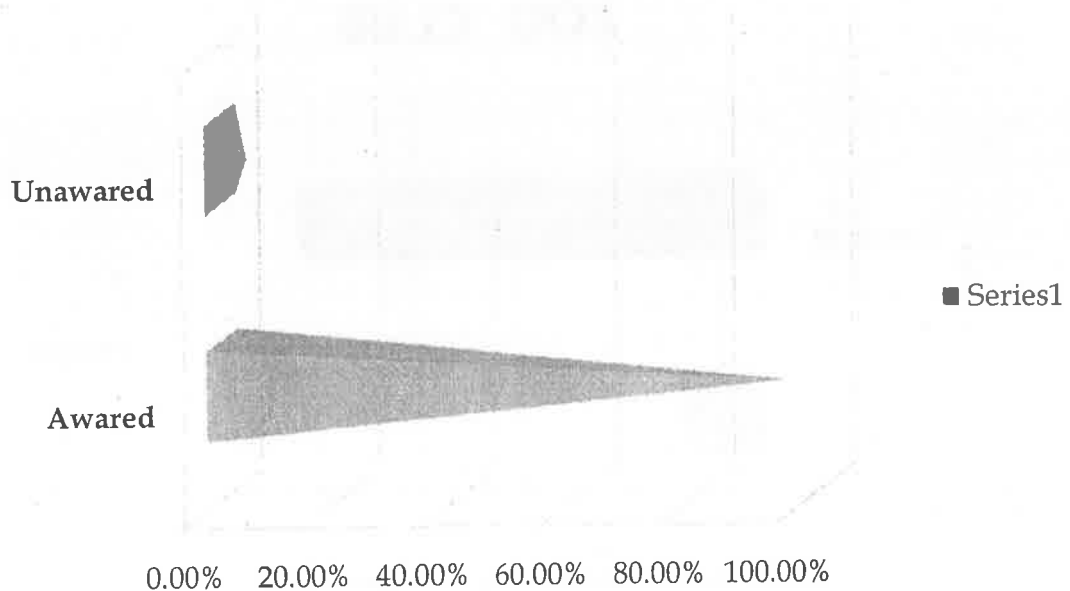
FEELING ABOUT THEIR VISIT



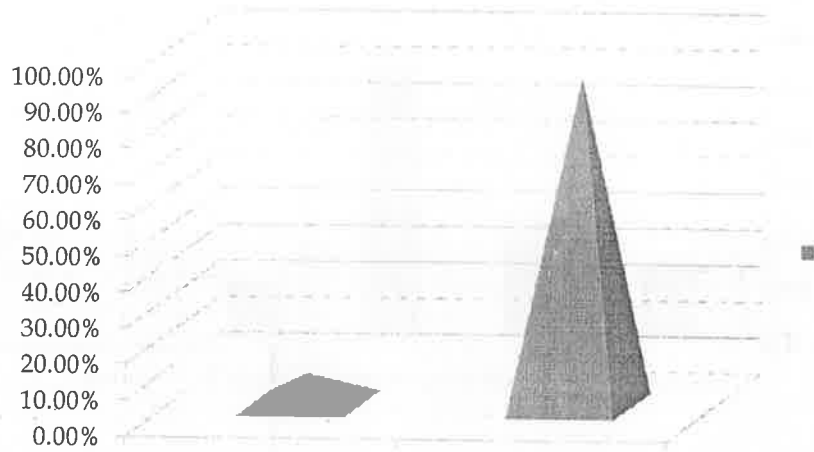
WENT ROUND THE ZOO



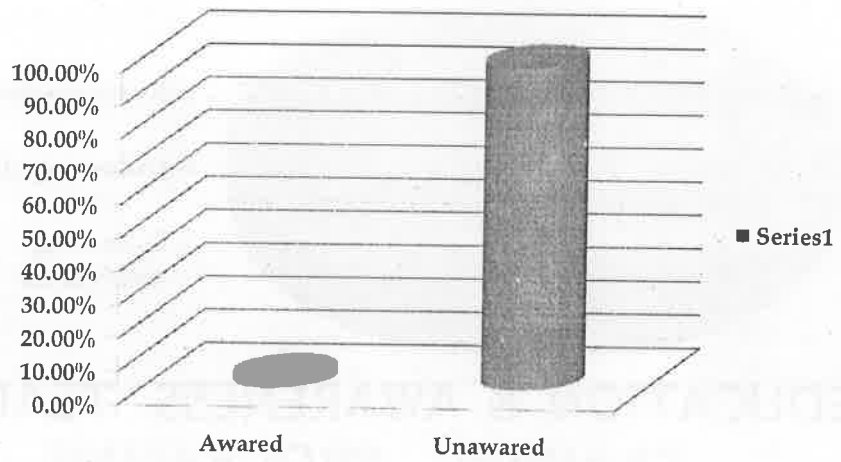
EDUCATION & AWARENESS -TEACHER TRAINING PROGRAMME



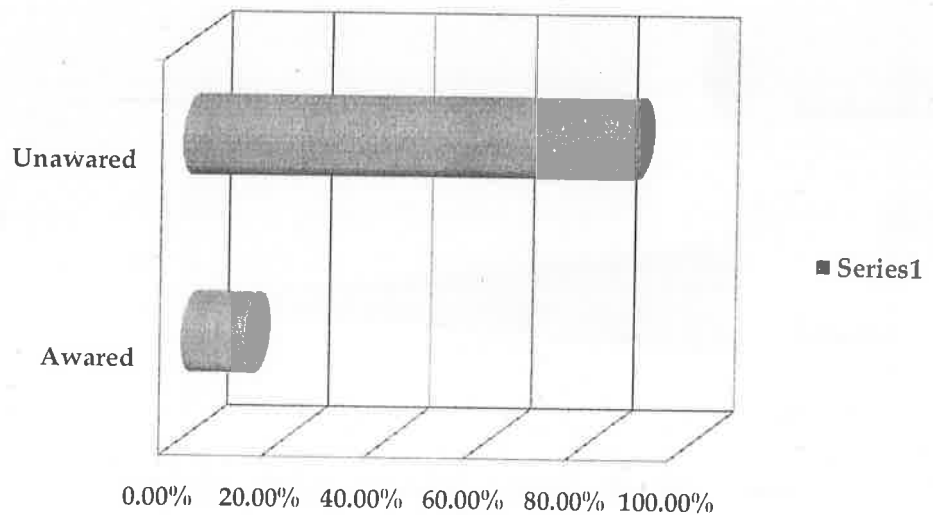
ZOO SCHOOL PROGRAMME



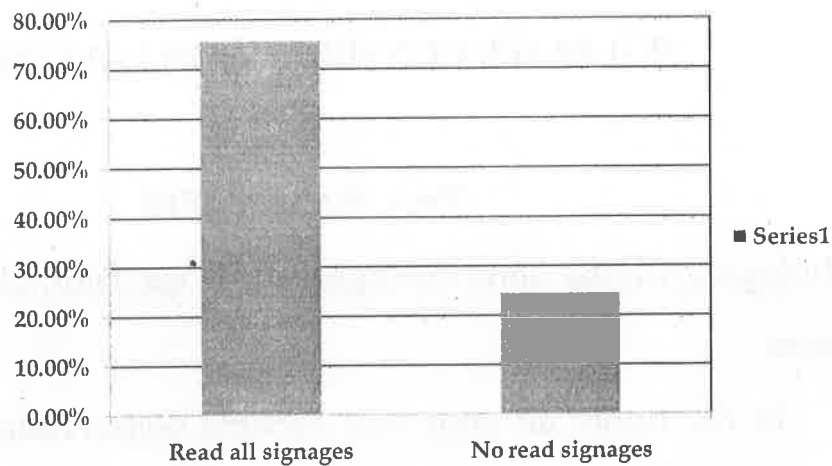
ZOO OUTREACH PROGRAMME



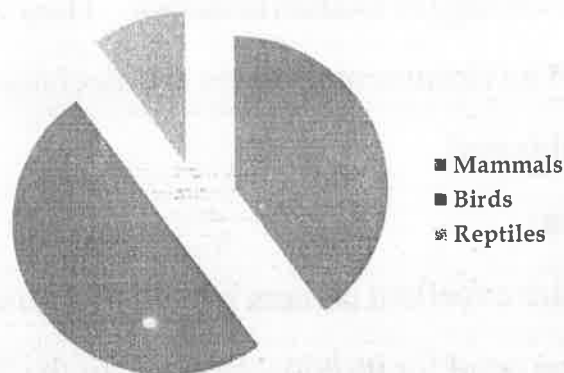
ZOO CLUB



EDUCATIONAL SIGNAGES



TIME SPENT ON DIFFERENT CLASS OF ANIMALS



CONCLUSION

- ☉ The teacher training program has been well received by the visitors rather than the Zoo school and Zoo outreach programme.
- ☉ The Zoo outreach programme has been carried out in and around Chennai schools and colleges. It needs to be covered all districts of the Tamil Nadu.
- ☉ Zoo school programme is not reached all districts of Tamil Nadu. It requires publicity through Education department. Though many schools visited the zoo most of them are not interested to attend the class because of their time limitation.
- ☉ The signage and information boards have been considerably well received by the visitors.

Thank you

For your attention

THE ROLE OF ARIGNAR ANNA ZOOLOGICAL PARK IN WILDLIFE CONSERVATION EDUCATION

BY

Dr.A.MANIMOZHI

Biologist, Arignar Anna Zoological Park, Vandalur, Chennai-600 048.

Vision:

In the future all zoos will become conservation and education institutions with sound scientific base. All zoos will be run in a more holistic way with best experience for visitors. They will affect human emotion and change of human behavior. They will empower people to act positively in environmental issues and decisions. All the zoos will work together to this end.

Introduction:

Zoos are excellent centers in which to raise awareness of the natural world and the need for its conservation. In the 21st century, it is important to develop this educational role so as to have an active and direct impact upon people's attitudes and behavior. In this way, awareness will be converted into action that has positive benefits for wildlife, people and conservation. Education in its broadest sense must be a priority for all zoos. Progress in conservation depends upon the development of public understanding of the relationship between species, such as conservation management of captive population, reintroduction and habitat protection, depends in the long term upon education initiatives that influence human behavior.

Zoos enable people to develop a sense of appreciation, wonder, respect, understanding, care and concern about nature. This can be achieved globally through the network of zoos working locally, nationally, regionally and internationally, and via direct involvement in -situ projects.

Zoos appeal to a very broad audience and have a huge visitation throughout the world. They therefore have the potential to be a very important source of environmental awareness, training and action for a sustainable future. In the early 21st century, we must make a concerted effort to revitalize and refocus education and training programmes

Arignar Anna Zoological Park:

The history of Chennai Zoo (for merely Madras) dates back to the year 1855. This was the first zoo to be formed in India. The idea of collection of animals and maintain at one place was mooted in 1855 by Dr. Edward Belford of the madras Museum. Further, in the case of Madras zoo factors like air and sound pollution, insufficient place for accommodating the animals, and highly dense human population around the zoo was a health hazard to animals. The madras zoo was shifted to Vandalur reserve forest in the out skirt of Madras city and work for the establishment of the zoo was started in 1976. This is one of the biggest zoos in South East Asia extending an area of 602 ha. The zoo was patronized by the late Hon'ble chief minister of Tamil Nadu and was opened by him during the year 1985. The modern zoological park set up in vandalur was conceived for collecting an array of animals of Eastern and Western Ghats and arranging them as per the taxonomic classification, ecological characteristics and behavioral repertoire by animals. The assemblage should reflect the natural occurrence of the animals in wild.

Mission Statement

The mission of the Arignar Anna Zoological Park is to encourage the people to develop a caring attitude towards flora and fauna; to serve as a dynamic nature conservation centre by promoting breeding programme for rare and endangered species of the Western and Eastern Ghats, and to offer excellent public service, recreation Eco-awareness and Education.

Objectives:

1. Ex-situ conservation and propagation of the fauna of Western and Eastern Ghats.
2. Initiate captive breeding programme for endangered species in accordance with the protocol for rehabilitation of this species in the wild if necessary.
3. Promote zoo as center of conservation awareness by organizing wild life education and interpretation programme to elicit broad based public support from different sections of society and enhance public awareness of wild life.
4. Provide opportunity for conduct of scientific studies on the fauna to enhance our knowledge on animal behaviour, its biology, ecology etc., so as to aid in scientific management of the zoo and conservation of wildlife.
5. To provide facility for health care and rehabilitation of rescued animals.

Administration

The Zoological Park is under the control of Director in the rank of Chief Conservator of Forests supported by one Deputy Director Additional Director and Assistant Conservator of Forests. Besides that, 27 ministerial staff, 39 Executive staff (inclusive of drivers) and 172 permanent workers are working under various categories. Apart from the regular staff, 15 members are engaged on daily muster roll. One Veterinary Officer and two Veterinary Assistant Surgeons head the Veterinary department with two Veterinary attendants. The work of Education, interpretation and Research is assigned to the three Biologists of the zoo.

Education Programme in Arignar Anna Zoological Park:

Education for Conservation:

The education centre of AAZP intends to throw open the facilities to educational institutions and specific target groups for formal education. Such educational institution can range from nursery schools to universities. Over 16, 00,000 people visit this zoo every year, of which nearly 5, 00,000 are students.

Animal exhibits for education

- ★ Should excite, enthuse and create interest
- ★ Should encourage understanding of conservation issues
- ★ Provide range of experience for diverse visitors
- ★ Revitalize focus on education Maximize educational activities
- ★ Develop appropriate resources
- ★ Use variety of interpretation techniques
- ★ Increase visitors receptivity for programmes

Zoo Education outcomes

- Zoo affect human emotion and thinking and change their behaviour
- Empowers people to act positively on Wildlife and Environment issue
- Zoos helps people to appreciate, understand and respect nature

Zoo-A learning centre

- Ethology
- Animal husbandry
- Bio-diversity
- Ecology
- Biological Science

- Cultural Enrichment
- Genetics
- Nature conservation
- Captive Breeding
- Wildlife Management

Themes for Education

- ★ Animal classification
- ★ Discussion about species, habitats, behaviour & conservation
- ★ Understanding of importance of eco-system
- ★ Socio –economic value of species and habitats
- ★ Impact of human behaviour on wildlife & conservation

Biological themes

- ★ Population dynamics
- ★ Adaptation
- ★ Evolution
- ★ Natural selection
- ★ Conservation breeding
- ★ Conservation management techniques

Cultural themes

- ★ Species in cultural and religious believes
- ★ Domestication of species
- ★ Good husbandry
- ★ Appropriate nutrition
- ★ Appropriate habitat

Zoo communication with visitors

- ★ Display boards
- ★ Interpretation staff
- ★ Volunteers
- ★ Electronic communication

- Information screen

- Internet

- Touch screens

I. Formal Education or Directed Learning:

The educational philosophy of zoos should incorporate the principles of environmental education and education for sustainability. This may be referred to as conservation education. Zoos should attract groups from a variety of educational institutions (Ex. Schools, colleges and universities). By providing exciting, interactive, structured educational workshops, programmes of classes and resources which are tailored to meet the specific understanding as part of local and national curricular frameworks.

At present there are three biologists who organize various environmental educational programmes. School children and college students are invited to participate in education programmes and demonstration on animal behavior, use of animal articles, upkeep of animals etc. Distribution of pamphlet, brochures, stickers, picture post cards is part of zoo education. Teachers and students get a great experience in the zoo. The education centre is committed to organize more educational programmes for the benefit of all students to draw new wildlife experiences. The classroom session enriches the knowledge on wildlife habitats, management conservation, animal behaviour, adaptations, nutrition,

evolution and ecology. Educating the public and creating awareness among many zoo visitors is the main objective of our educational plan.

Lessons for Pre Preliminary Students:

1. Animal's puppet play.
2. Animal story telling
3. Discovery Trails and Animal Experiences

Lessons for Primary Students:

1. Knowing Indian Animals
2. Discover endangered animals
3. Drawing and Parity animals

Lessons for Higher Secondary Students;

1. Animal Behavior
2. Animal kingdom classification,
3. Animal adaptation
4. Indian ecosystems
5. Animal care and hygiene
6. Animal watch/out door studies

Lesson for College Students:

1. Captive breeding in Mammals and Conservation efforts.
2. Wildlife in danger
3. Animal adaptations
4. Feathered Friends
5. Sexual reproduction in Wild
6. Animal diet
7. In-situ and Ex-situ conservation

8. Animal Communication

9. Wildlife photograph

These courses and classroom sessions are designed to develop interest who desires to pursue a career in wildlife.

1. Zoo School:

The zoo school started in the year 2000 caters to a large section of students and public and conducts a large number of one day programmes.

Zoo school Programme (College and School students):

Sl.No	Financial year	No.of programme conducted	
		No.of participants benefited	
1	2000-2001	2	275
2	2001-2002	34	675
3	2002-2003	22	675
4	2003-2004	69	4038
5	2004-2005	101	7384
6	2005-2006	108	8176
7	2006-2007	163	15938
8.	2007-2008	204	22230

Public opinion about conservation education programme of Arignar Anna Zoological Park.

By

Dr.A.Manimozhi, Biologist, Arignar Anna Zoological Park, Vandalur, Chennai.

Introduction

Madras had the distinction of having the first zoo in India, which was started during the year 1855. Factors like air and sound pollution, insufficient place for accommodating the animals and highly dense human population around the zoo became a health hazard to animals. The Madras zoo was shifted to Vandalur Reserve Forest in the out-skirt of Madras city and work for the establishment of the zoo was started in 1976. This is one of the biggest zoos in South East Asia extending over an area of 602 ha.

The existing landscape has been utilized as it is and all the animals are exhibited in large open moated island type enclosure with simulated environment. The entire area of 602 ha. has been clothed with vegetation both by natural and some artificial regeneration.

Arignar Anna Zoological Park is one of the modern and scientifically managed zoos in the country. The Zoological Park is the pride of the State and has attained excellence in the Captive Breeding Programme for endangered species and in the field of zoo education and creating awareness about the conservation of natural resources. A zoo school was opened in the year 2000 for the teachers, students and general public where regular zoo education and conservation programmes are conducted.

Mission statement

The mission of the Arignar Anna Zoological Park is to encourage the people to develop a caring attitude towards flora and fauna; to serve as a dynamic nature conservation centre by promoting breeding programme for rare and endangered species of the Western and Eastern Ghats, and to offer excellent public service, recreation Eco-awareness and Education.

“A thing of beauty is joy for ever”-says William Wordsworth. In the busiest world there is no second a peace of mind to satisfy the needs of an individual. AAZP is situated at the south side of the Metropolitan city, Chennai. It attracts sixteen lakh people every year. The Zoo is managed by Tamil Nadu forest department plays a great role in Conservation, Education and Ecoawareness programmes. This study is aimed understand the attitude and expectation of the visitor.

Objectives of the study

1. To find out the attitude and expectation of the visitors
2. To know the level of awareness about the AAZP.
3. To know the status of various education programmes

Conducted in AAZP

Materials and Methods

A standard questionnaire comprised of 44 objective questions in Tamil and English were prepared and circulated to various types of visitors. Their Social status ,sex, Educational qualification, knowledge about animals, Purpose of visit, Facilities provided to visitor and animals ,hygienic condition of the zoo,Awareness about various training programme conducted in AAZP etc,are provided in the questionnaire. The survey was conducted between Dec.2004 to Jan.2005.The visitors were approached

randomly at the exit point of the zoo after their complete visit. Totally 600 visitors were covered in this study.

Results

The study showed that the visitors were in the age group of 15-20 is 25.2%, 21-25 is 30.5%, 26-30 is 18.5%, and 31-35 is 15.6% and 35 and above is 10.2%.

Among the visitors 64.5% were found to be Male and 35.4% were found to be females.

Education status of the visitors was analyzed. 0.8% uneducated, 16.3% below 10th, 18.6% 12th, 28.2% U.G, 25.3%, P.G and 10.8% professional.

19.5% of low class, 73.8% of middle class, and 6.7% high class peoples were visited

46.9% of visitors are family, 47.6% of them are friends, and 3.6% individual and 1.9% others were visited.

Visitors from village 13.8%, town 25.2%, city 60.6%, and others 0.5% were visited the park.

58.5% of visitors know about AAZP by friends, 30.8% by relatives and 10.7% by others

63% of visitors come by bus, 13% by train, 24.7% by own vehicle and 9.3% by others.

45.2% visited zoo for 1st time, 33.8% for 2nd time, 15.2% for 3rd time and 5.8% for many times.

Visitor's purpose of visiting zoo:

For Education 10.6%, peace 8.6%, entertainment 73.8%, to see animal feeding habits 3.8%, and observe the animal behavior 13.2% were visited the park.

16% of visitors feel that visit to the zoo is educative, 23.2% felt informative, 58.4% felt entertained, 11.4% felt relaxed and 0% felt bored

48.5% of visitors went round the zoo by themselves, 19.5% by following others and 32% by following signboards.

Education and awareness program

95.5% of the visitors were aware of teacher education programme and 4.5% were not aware of it.

8.5% of the visitors were aware of the education programme for students and 91.5% were not aware of it.

3% of the visitors are aware of zoo outreach programme 97% were not aware of it.

12.5% of visitors are aware of zoo club and 87.5% were not aware of it.

Educational signages

75.5% of the visitors read the animal information board, roadside maps and wayside signages inside the zoo while 24.5% of them didn't read.

40% of the visitor spent most of the times in mammal enclosure, 45% in bird's enclosure, 10% in reptile's enclosure and 5% in aquarium enclosure.

Discussion

Every public department should get a public opinion about their performance in all aspects of the public service in a well determined period. It is necessary to know public feeling about their service. Then only it can be rectified then there. The survey conducted during 2005 in Arignar Anna Zoological Park with the help of college students revealed some positive trends among the public in the administration and maintenance of the park in general. The conservation education programme conducted in Arignar Anna Zoological Park revealed some positive and negative trends among the public. The teacher training programme well received among the public and also by the teachers. The Zoo outreach programme and Zoo club activities are not much received because of these programme limited in and around the Chennai schools and colleges. Similarly the Zoo school

programme is not much popularized in other districts of Tamil Nadu except Chennai and Kanchipuram.

Conclusion

- The teacher training program has been well received by the visitors rather than the Zoo school and Zoo outreach programme.
- The Zoo outreach programme has been carried out in and around Chennai schools and colleges. It needs to be covered in all districts of the Tamil Nadu.
- Zoo school programme is not reached all districts of Tamil Nadu. It requires publicity through Education department. Though many schools visited the zoo most of them are not interested to attend the class because of their time limitation.
- The signage and information boards have been considerably well received by the visitors.

Acknowledgement:

The author is thankful to Thiru.R.Sundararaju, I.F.S.,Principal Chief Conservator of Forests & Chief Wildlife Warden, Tamil Nadu Forest Department and Thiru P.L.Ananthasamy I.F.S, Chief Conservator of Forests & Director, Arignar Anna Zoological Park for their constant support and encouragement to prepare this manuscript and allowed me to attend the conservation education workshop held at Sanjay Gandhi Biological Park, Patna

Active Learning teaching methods For Conservation Educators

Active Learning

Trainees must do more than just listen:
They must read, write, discuss, act, play games or be engaged in knowing
and solving problems.

Active learning is:
Trainee centric -not trainer centric
It's learning and sharing.

Active Learning methods

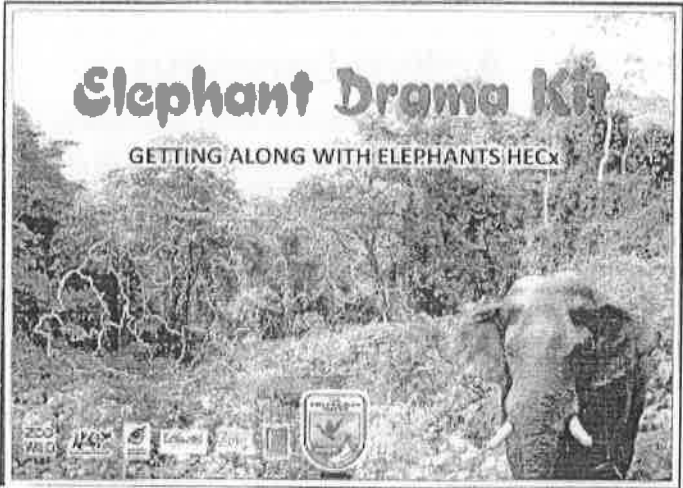
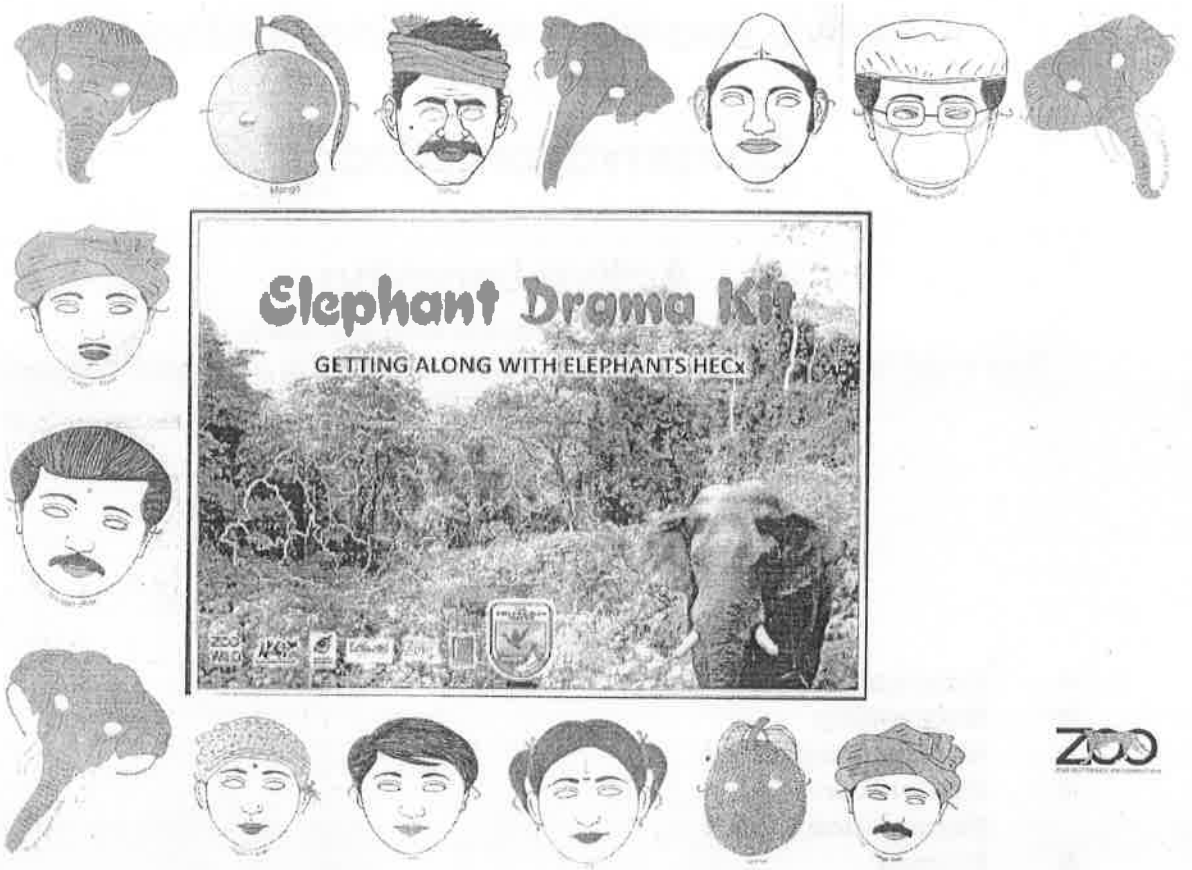
- ❖ Concept Map
- ❖ Story writing
- ❖ Attitude Assessment
- ❖ Content Survey-
Pictorial and written
- ❖ Dramas

- ❖ Games
- ❖ Role Playing
- ❖ Panel Discussions
- ❖ Debates
- ❖ Maps, charts, models
- ❖ Brainstorming

Mini dramas

Using Drama in Public Education

- ❖ Almost everyone from any culture likes drama
- ❖ Entertaining and inspiring
- ❖ It is an emotional experience
- ❖ More impact on our thinking and feeling
- ❖ It creates friendly bonds between people
- ❖ He learnt that elephants have the right to live.
- ❖ He realized the mistakes done by his father.
- ❖ After a while he approached his father and requested him to stop killing elephants.
- ❖ He won the heart of his father and his entire team.
- ❖ The entire team started supporting animal conservation with the help of the educator and earned money as wildlife guides.



ZOO



Create your own Drama: Instructions

- Choose a wildlife topic based on a current conflict or issue that important to your group. Try to pick a very specific issue, as you will have limited presentation time. What is your topic? (Facilitator may want to hold a brainstorming session first, and then write the chosen topics on a board).
2. List the people, plants, and animals to be involved in this issue. Who are characters in your drama?
3. Decide where your drama will take place. What is the setting?
4. What is the main message of your drama?
5. Pick what events you want to act out – your story line – keeping it simple to be able to present within a five to ten minute time frame. What are the main events in your drama?
6. You do not need to write a script; rather think of the kinds of conversations your characters would have. What are the main topics of dialogue?
7. Assign roles and rehearse. As you practice, keep in mind the message you are trying to communicate.
8. Make props and costumes – be creative! Using scrap materials and natural materials is a great idea. Make sure you have already practiced so that you do not take all the rehearsal time to make your props and costumes.
9. Present your drama! Define the stage area and audience area. Make sure to be an attentive audience!
10. Discuss the dramas: messages.

Finger puppets

Uses for:

1. Mini dramas
2. Stage short & long talks
3. Teaching etc.,

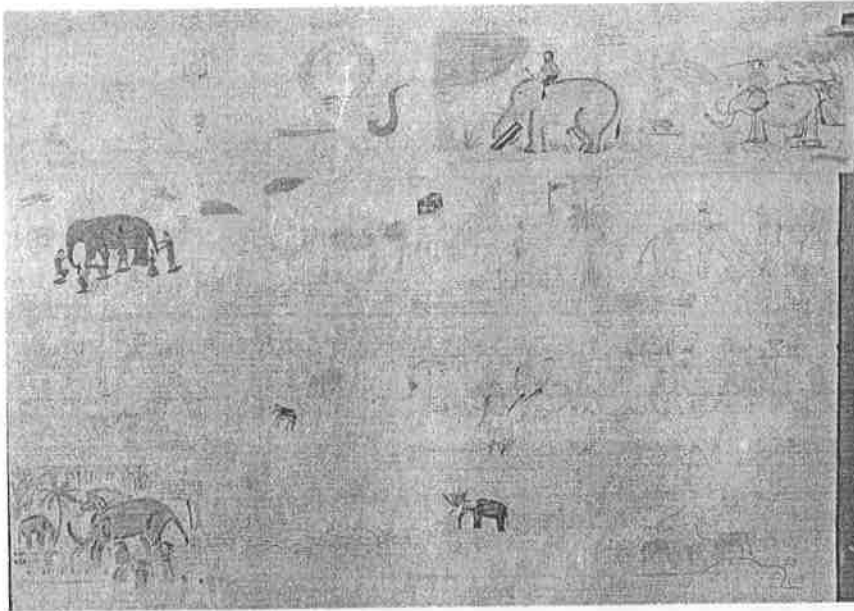


Role-playing

The trainer provides either real or imaginary contexts along with a range of relevant characters/roles;

Trainees are encouraged to research these contexts, characters, and/or roles; and then to improvise dramatic interactions among their characters during class periods.





Making Illustrations

History of Elephants



Debate

Conflict or other issues resolution process

- ❖ Select a issue or conflict
- ❖ Collect the background information
- ❖ Make a proposal
- ❖ Divide your audience into different groups and assign a role such as Government officials, villagers, poachers, conservationists, Forest department personnel, human rights etc.,



Other teaching methods



Maps

Past & Present distribution of elephant ranges

Other teaching methods...cont

Animal behaviour or characteristics



Appreciating behaviour or adaptations of animals through activities

Other teaching methods...cont



Elements of Survival

Prey-predator relationship



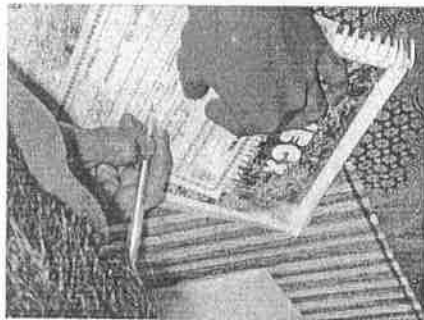
Other teaching methods...cont



Taking oath for animal conservation



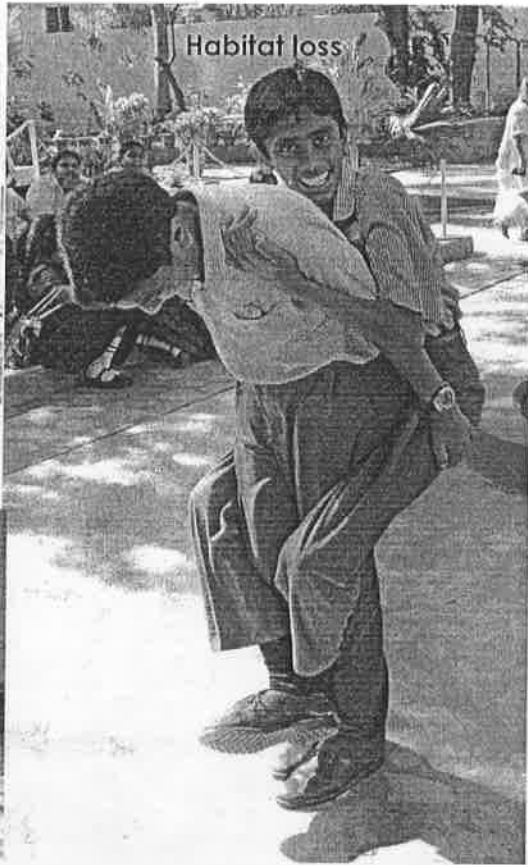
Marching for Human elephant co-existence



Writing pledge what would do in six months



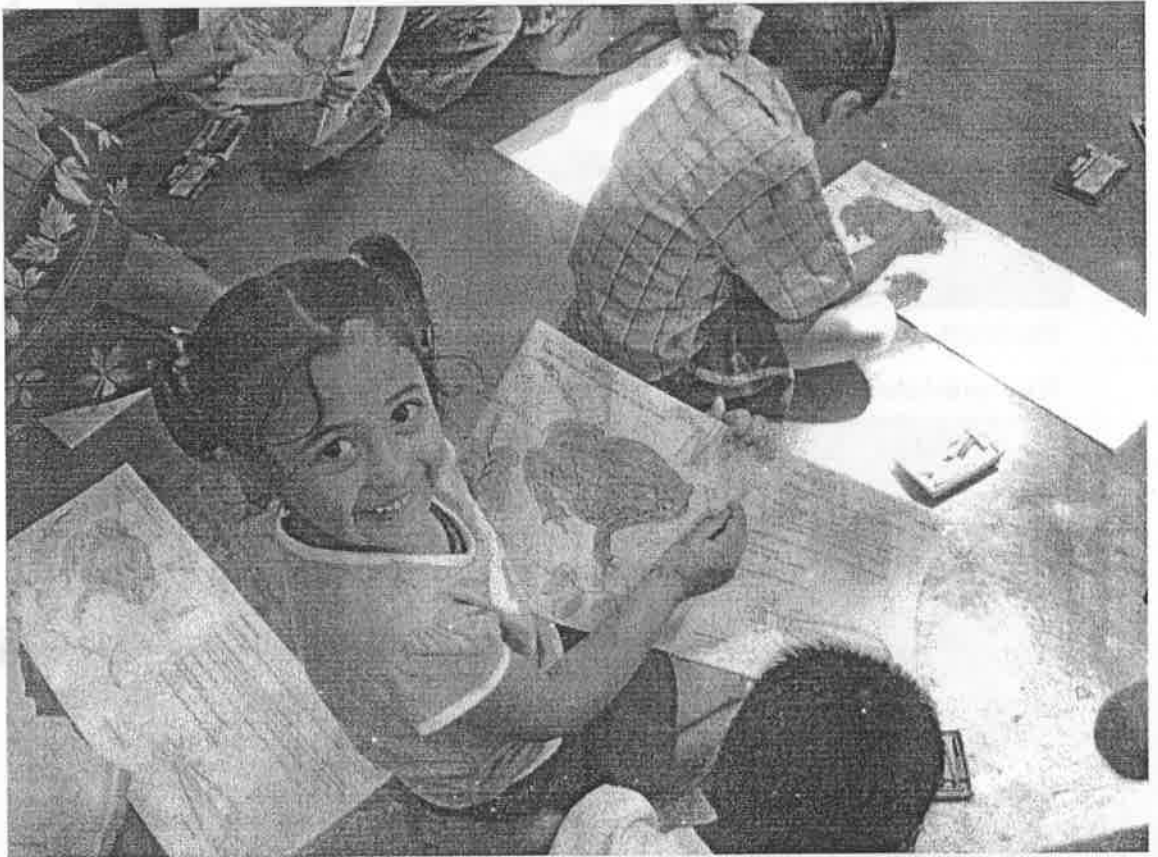
Read out the pledge to others to hear



G
A
M
E
S



Thank you



Assess your audience with Assessment Tools Concept Map or Mind map

- ❖ Concept maps are a form of assessment designed to test the knowledge before and after a unit of study or education programme
- ❖ Literate audience: written words
- ❖ Illiterate audience: using drawings
- ❖ Pre-unit concept maps-before the programme
- ❖ Post-unit concept maps-after the programme
- ❖ Compare both map to see changes in attitude and knowledge

Concept or Mind Map

Mind mapping involves writing down a central idea and thinking up new and related ideas which radiate out from the centre. You are mapping knowledge in a manner which will help you understand and remember new information.



School

Model Concept Map-School



Pre-concept map-Subject elephant



Post Concept Map-subject elephant

Story-writing

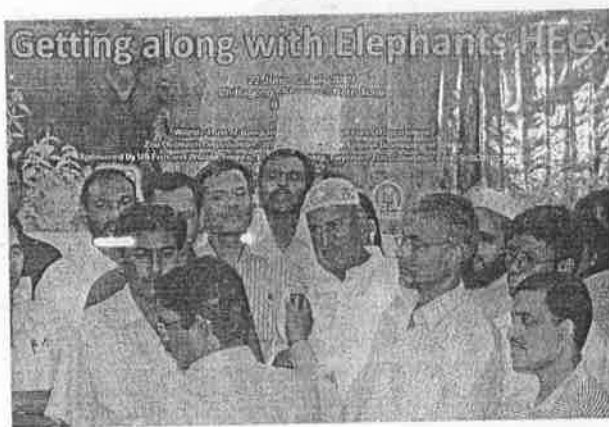
- ❖ Appropriate for all ages
- ❖ Literate can write stories
- ❖ Non-literate can create stories in Pictures
- ❖ May work individual or pairs
- ❖ Make pre-unit and post unit stories
- ❖ Evaluate at the end

Attitude Assessment

Survey conducted about a topic by asking questions that can be answered by yes/no or agree/disagree.

Content survey – pictorial

Content survey pictorial is an assessment tool useful to use with adult illiterate groups and children.



Example:

Fill in the circle under the picture of the animal body part for which the most elephants are killed



Content survey-Pictorial

Content survey – written

Written content survey assessment tool can be used only with literate adults. A set of multiple choice questions is given to the audience and they should be instructed to fill in the circle corresponding to the best response for each question or statement

Before

After

What is the correct scientific name for Asian elephant?

Elephas maximus
Loxodonta africana

Loxodonta cyclotis

Conservation education on reptiles

Madras Crocodile Bank Trust



Objective

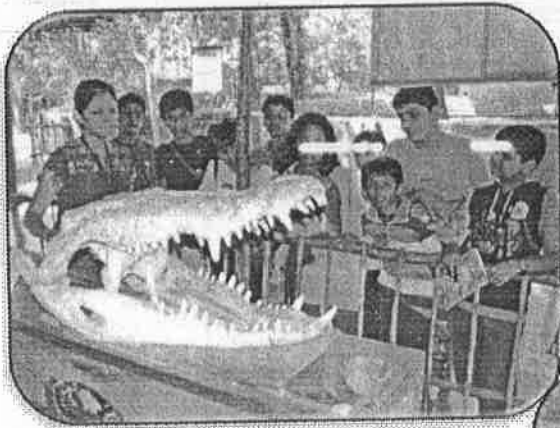
At Madras Crocodile Bank (MCBT) we believe that education is one of the keys to effective conservation. MCBT is extensively involved in environmental education and has a full fledged education department which conducts a range of environmental awareness.



- Education programs are tailored to suit each audience.



...and include fun filled and interactive activities like puppet shows, games, discussions and practical experiences.

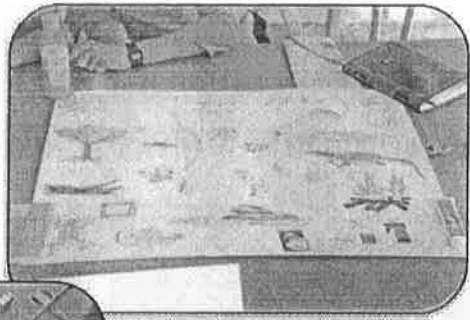


Understanding crocodile skull..

Kids trying to be a crocodile!



Choose from the list..



..and make your own exhibit!

- Our education materials are constants being developed, scientifically updated and creatively presented to cater to people from all walks of life.

CROCODILE ALSO GOES TO TOWN...

NeuroCenter is an exciting, hands-on interactive program for children from 6th to 8th grade. At Madras Crocodile Bank Trust, you get to meet and hold the crocodile, see its anatomy, and learn about its behavior, habits, and how it lives. Talk to the crocodile, keep an exhibit and take it home.

Join the Crocodile Volunteer program and learn:

- How to photograph and make exhibits
- How to make a TV or a video on the crocodile
- How to make a book or a book review
- How to make a play or a video for the TV - a short film
- How to make a CD or a recorded book on the crocodile
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- How to make a CD or a recorded book on the crocodile

For more information contact us:

Madras Crocodile Bank Trust
Phone: 044-92393441
Email: info@mcbs.org
www.mcbs.org

MADRAS CROCODILE BANK TRUST
Centre for Herpetology

Madras Crocodile Bank Trust "Worksheet"

1. MCBT was started in
A) 1974 B) 1975 C) 1976

2. Of all crocodilians, whose skulls are the heaviest?
A) Alligator B) Water Monitor C) Nilgiri

3. The word 'Varanasi' refers to 'Var' and 'Sikandar' which is a regional term for, i.e.
A) Alligator B) Water Monitor C) Nilgiri

4. Which is the longest venomous snake in the world?
A) Python B) Cobra C) King cobra

5. When an alligator's mouth is closed (c)
A) Only the upper teeth are visible B) Both upper and lower teeth will be seen

6. Alligators have in
A) U-shaped heads B) V-shaped heads

7. It is also known as Johnston's river crocodile.
A) Slender snouted crocodile in B) Australian freshwater crocodile C) Nilgiri crocodile

8. The slender-snouted crocodile's species name 'Galapagoensis' means
A) Monster B) Long snout C) Stable worm, clad in a hood D) Sharp mouth

9. The smallest species of crocodiles is
A) Dwarf Caiman B) Spectacled Caiman C) West African Dwarf Crocodile D) Australian freshwater crocodile

10. What does the Hindi word 'mugger' mean?
A) The lizard B) Water monitor C) Water God

11. Salt water crocodiles can only live in seas and oceans.
A) True B) False

12. What do crocodiles almost exclusively feed on?
A) Crocs B) Turtles C) Fish

13. The adult slender snouted crocodile will not be seen at swimming like
A) Dugong B) A cow herding C) Barking

14. Tomistoma (false gharial) is found only in
A) Water monitor B) Sharp mouth C) Lizard D) Long mouth

15. The word Alligator derived from the Spanish words 'Aligarto' means
A) The water monitor B) The Water God C) The Lizard

16. Turtles and tortoises at Turtle rescue
A) A B) C) D) E) F) G)

17. Crocodiles don't have dental problems
A) They brush their teeth everyday B) They don't chew their food C) They replace their teeth throughout their lives

18. Three Indian Crocodilian species are
A) A B) C) D) E) F) G)

19. This Caiman is also called 'Pantane Caiman' because of its more visible display of teeth.
A) Spectacled Caiman B) Yacare Caiman C) Dwarf Caiman

20. Do Crocs have tongue?
A) YES B) NO

Fun learning

Interactive worksheets

Across

1. "Gharial" is a famous _____ crocodile
2. World's biggest lizard
3. Longest snake in the world
4. Largest snake in the world
5. A lizard that can change color
6. Only snake that builds a true nest
7. Mugger is also called _____ crocodile
8. This species of crocodile feeds exclusively on fish
9. Common Indian crocodile
10. Reptiles have _____ on their bodies, not fur or feathers
11. Type of nest made by monitor's crocodile
12. A reptile with a hard shell that lives on land
13. All reptiles are _____ as they depend on the environment to regulate body temperatures
14. Crocodilians: Crocodile, Gharial and _____
15. King Cobra's scientific name

Down

1. Helps protect the crocodile's eyes and water
2. A reptile with a protective shell and lives in water
3. Large extinct reptiles
4. The female Gharial python wrap their powerful bodies around their eggs until they are ready to hatch. This behavior is known as _____
5. The second largest land tortoise in the world
6. A partial or total loss of melanin pigment in the eyes, skin and hair
7. MCBT is also a centre for _____
8. Gharial was first to smell the air
9. A reptile that lives in the ocean and comes ashore only to lay eggs
10. Crocodiles have _____ chambered heart
11. False gharial is known as _____
12. A large most eating reptile
13. False Nilgiri is a type of _____ crocodile
14. A venomous snake, which spreads a hood

Please tick which crocodiles you see at MCBT

- 1 American alligator
- 2 Chinese alligator
- 3 Black caiman
- 4 Yacare caiman
- 5 Spectacled caiman
- 6 Coffer's dwarf caiman
- 7 Schneider's dwarf caiman
- 8 Broad fronted caiman
- 9 American crocodile
- 10 African slender snouted crocodile
- 11 Orinoco crocodile
- 12 Australian freshwater crocodile
- 13 Philippine crocodile
- 14 Marabou crocodile
- 15 Nile crocodile
- 16 New Guinea crocodile
- 17 Mugger
- 18 Saltwater crocodile
- 19 Cobral crocodile
- 20 Siamese crocodile
- 21 West African dwarf crocodile
- 22 Tomistoma
- 23 Gharial

Contact us
 Madras Crocodile Bank Trust,
 Vadamattur Village, Porur Post,
 Madurai-605104,
 Tamil Nadu, India.
 Email: education.mcbt@gmail.com,
 mcbtindia@gmail.com

Gharial (Gavialis gangeticus)

Species Gavialis gangeticus

Characteristics

The gharial has a long, thin snout and is the longest crocodile in the world. It is found only in the Ganges river basin in India. It is known for its powerful bite and its ability to breathe through its skin. It is also known for its nesting behavior, where it builds a mud nest and guards it fiercely.

Conservation

The Gharial is listed as an endangered species. It is found only in the Ganges river basin in India. It is known for its powerful bite and its ability to breathe through its skin. It is also known for its nesting behavior, where it builds a mud nest and guards it fiercely.

Additional facts

The Gharial is the only crocodile in the world that has a bony snout. It is also known for its powerful bite and its ability to breathe through its skin. It is also known for its nesting behavior, where it builds a mud nest and guards it fiercely.

www.mcbt.org

Fun learning

scales

So long 09.

A great year just went by...

With the tail-end of the success program we have a lot of young ones coming into MCBT, which as the first step towards building a strong and developed Croc force. Our new sector provided all of us with the opportunity and drive to carry forward the good work. To top it all, we have had a fantastic year in terms of the number of hatchlings who are growing up in one with a shiny eye now.

It felt so special, January 2009 was just their last before we know it, we were wishing everyone a good.

With you all a happy new year!!

Species cards, newsletters, postcards, posters and stickers.

School Programs



Field trips are made more attention-grabbing with an educational program.

School Programs



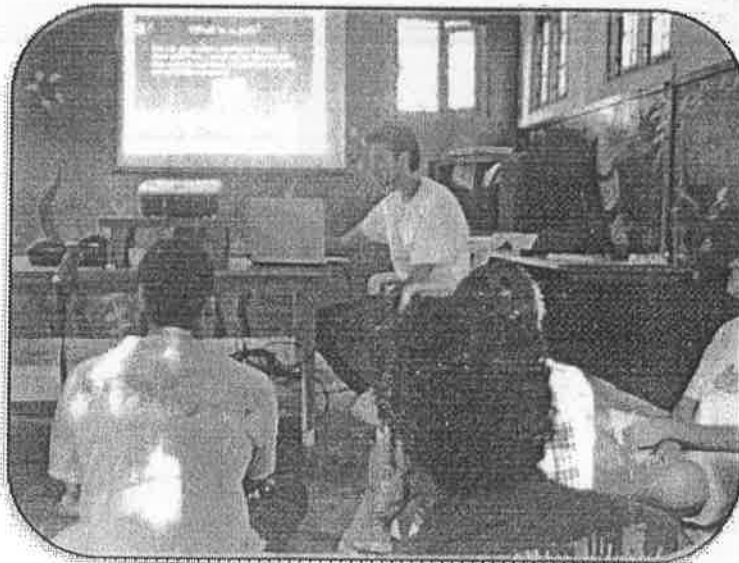
We conduct interactive & fun based curriculum taking advantage of the reptiles housed here in naturalistic settings to engage students in a unique, exciting and supervised manner.

College/University programs



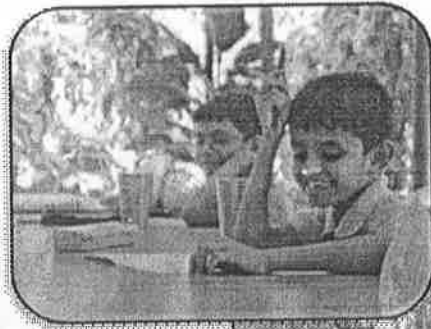
This program is for students at universities and colleges that have chosen to specialize in a biological field and are looking to develop their knowledgebase.

College/University programs



Special programs are designed for students with power point presentations and workshops according to their field of interest.

Summer Camps



Two day camps are organized every year during the summer holidays to let students get a sneak peak into the world of reptiles.

Behind the scenes



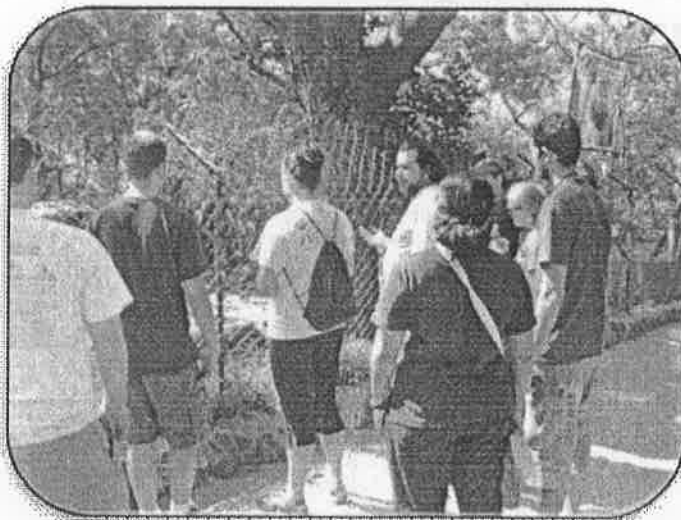
Special camps are organized to give children a chance to learn what it takes to run a zoo.

Behind the scenes



They learn about filtration systems, watch how we do health checks on animals, data collection, visitor education etc.

Guided tours



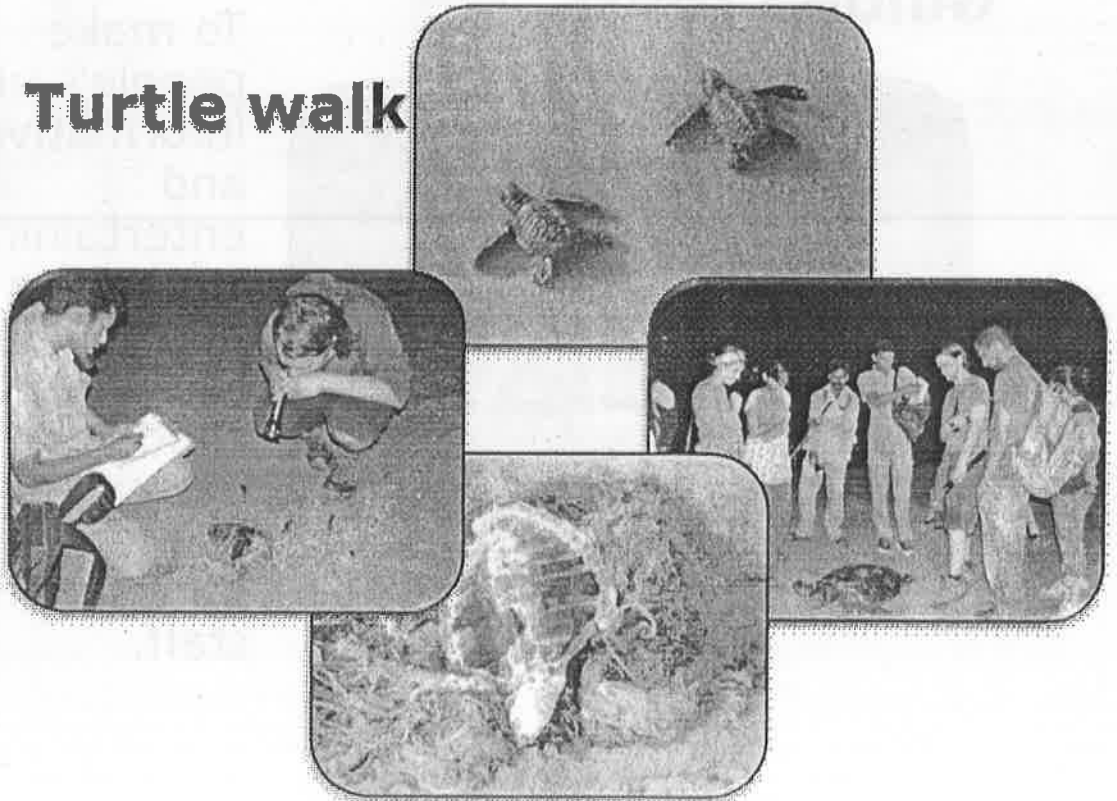
To make people's visit informative and entertaining, we have a 2 hour guided tour which is conducted by our trained docents and staff.

Night Safari



Visitors can observe crocodiles at night, hear splashing of water, jaw-slapping or reclaiming territories. It is also a guided tour.

Turtle walk



Junior zoo keeper

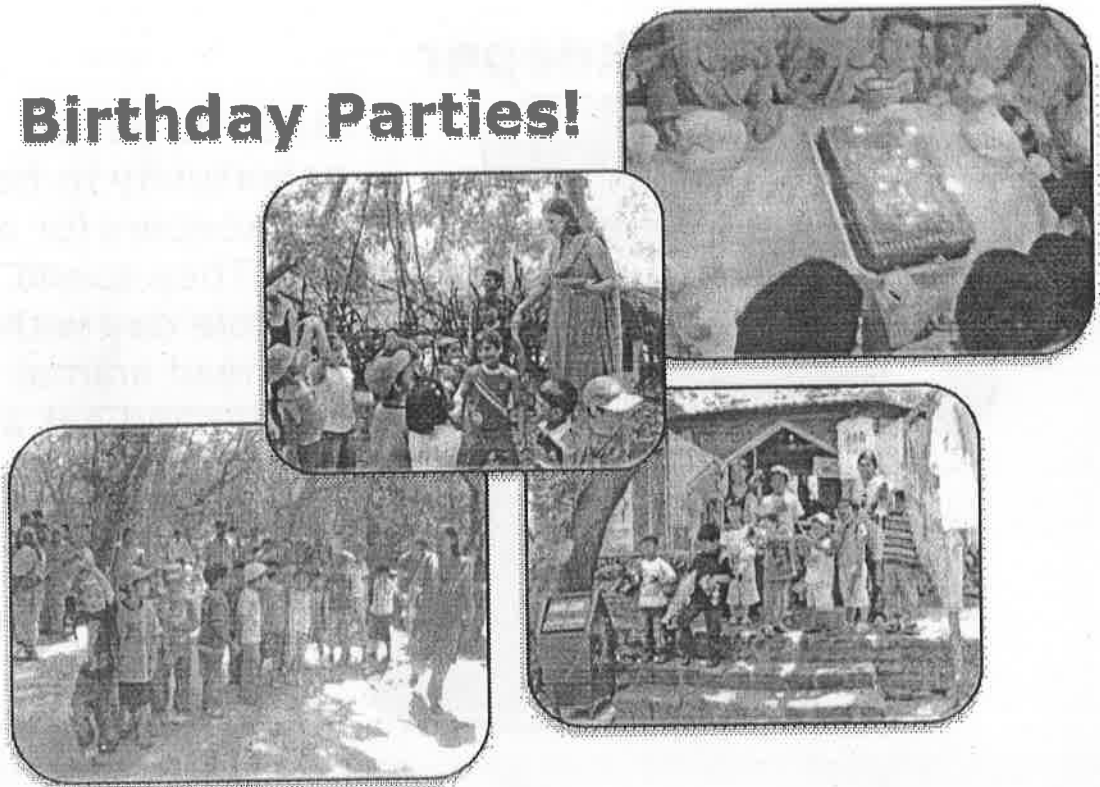


Students get an opportunity to be zoo keepers for a day. They spend a whole day with our head animal keeper and get a glimpse into their career with animals.

Wildlife week celebration



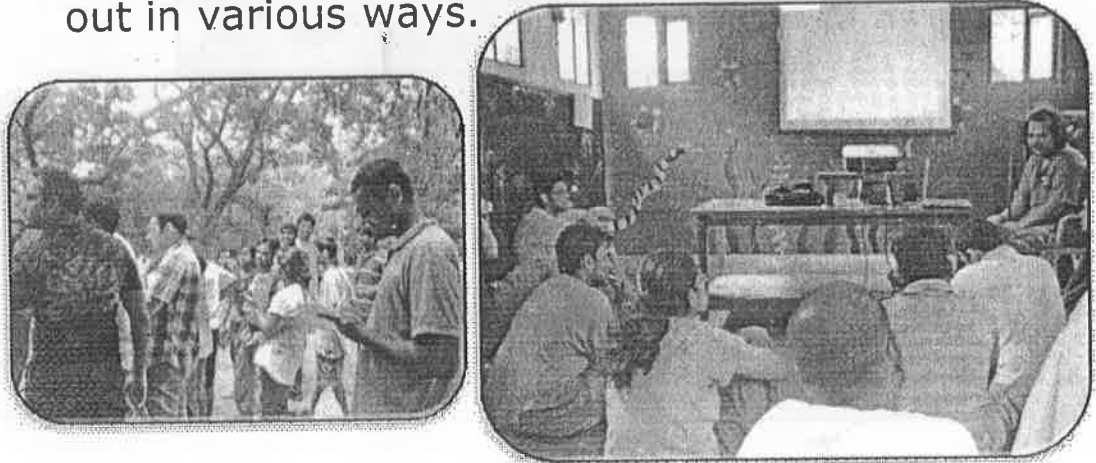
Birthday Parties!



Docent Program

The word "docent" is derived from the Latin word *docere*, meaning "to teach".

Docents at the Croc Bank undergo formalized training and are given a special status to help out in various ways.



Docents are given reference material to increase their knowledge.



The
CROC BANK DOCENT
Handbook

Crocodile Bank Docent Programme 2009
Madras Crocodile Bank Trust / Centre for Herpetology
Valmukurumbi Village, East Coast Road,
Perur Post, Mandalapetam - 603104,
Tamil Nadu, India
Email: ruchi@mcot@gmail.com, education.mcot@gmail.com
Website: www.madrascrocodilebank.org

Docent Program

As a part of the awareness program, docents spend most of their time sharing their knowledge and enthusiasm about reptiles.



Docent Program

Docents also help with more technical maintenance and conservation research work.



Docent Program



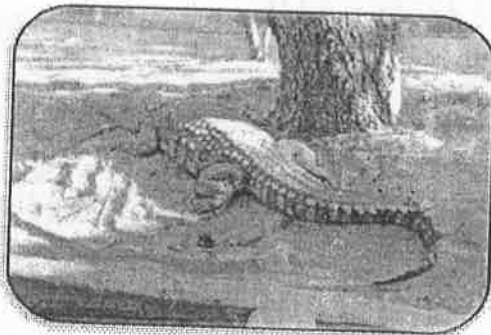
Docents also assist in our education programs.

- Visitor education through signages and interactive Young Reptiles Booth



- We also have a very large collection of herpetology related books and papers in our library. It is used by students and researchers from all over the world.

- Reptiles can be boring for most visitors owing to their inactive life...



...and hence, a dynamic education program becomes even more important for reptile conservation.



Thank you all!



AAZP WELCOMES YOU



Role of Arignar Anna Zoological Park in Wildlife Conservation Education



By
Dr. A. Manimozhi
Biologist

**Enriching Animal
collection for
Zoo education &
Research**



Sixteen lakhs people visit AAZP annually,
creating a tremendous opportunity to serve as

**“Windows on
Wildlife”** and to provide

Environmental and Conservation Education
for people of all ages and types

Zoo Mandate

- Conservation of the captive population
- Creating awareness and educating the public
- Research studies on the behavioral, social and reproductive profile of animals



Education

Research

Species & habitat
conservation

Animal collection in AAZP as on 31.12.2009

	Class	Stock as on				
		01.10.2009		31.12.2009		
		Sp.	Nos	Ani. Nos	Sp. Nos	Ani. Nos
1	Mammals	49		454	49	438
2	Birds	62		733	62	722
3	Reptiles	30		276	30	274
	Total	141		1463	141	1434

Conservation status of species in AAZP

Sl.No	Class	Schedule I & II animals		Non-scheduled animals	
		No. of species	%	No. of species	%
1	Mammals	25	55.56	20	44.44
2	Birds	4	5.19	73	94.81
3	Reptiles	13	43.33	17	56.67
Total		42	27.63%	110	72.37%

Indian zoos hold 83% of low risk least concern mammals and 8% of Endangered and vulnerable category

Scheduled I & II, Scheduled III, IV & V and Exotic species of AAZP

Class	Total No. of species	Total No. of animals	Schedule I & II		Schedule III, IV & V		Exotics	
			No. of species	No. of animals	No. of species	No. of animals	No. of species	No. of animals
Mammals	46	421	27 (58.69)	230 (54.63)	7 (15.22)	160 (38.00)	12 (26.09)	31 (7.36)
Birds	68	548	4 (5.88)	23 (4.20)	58 (85.29)	494 (90.16)	6 (8.82)	31 (5.66)
Reptiles	30	401	13 (43.33)	179 (44.64)	11 (36.67)	163 (40.65)	6 (20.0)	15 (3.74)
Total	144	1370	44 (30.56)	432 (31.53)	76 (52.78)	817 (59.64)	24 (16.67)	77 (6.82)

Parenthesis shown the %

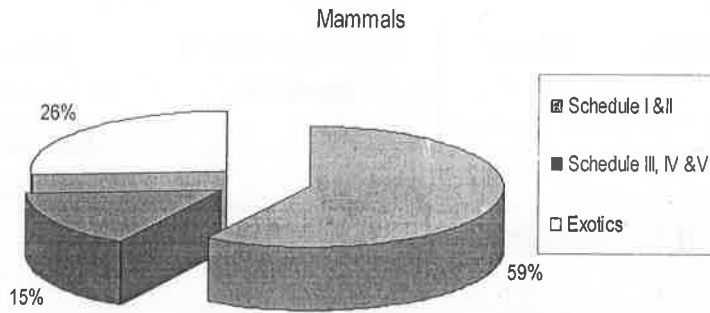


Chart showing the % of Mammal species in Sch I&II, Sch III, IV & V and Exotics

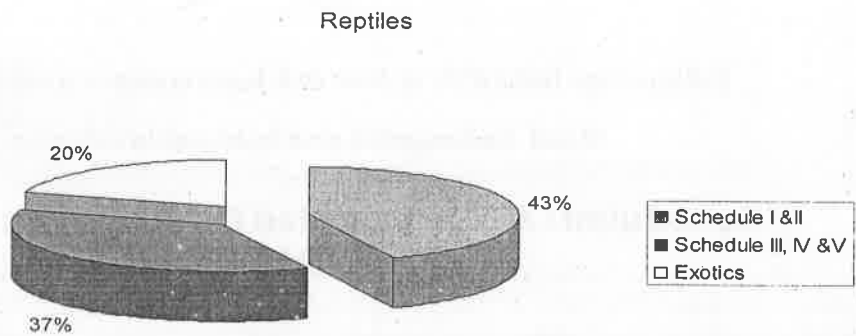


Chart showing the % of Reptile species in Sch I&II, Sch III, IV & V and Exotics

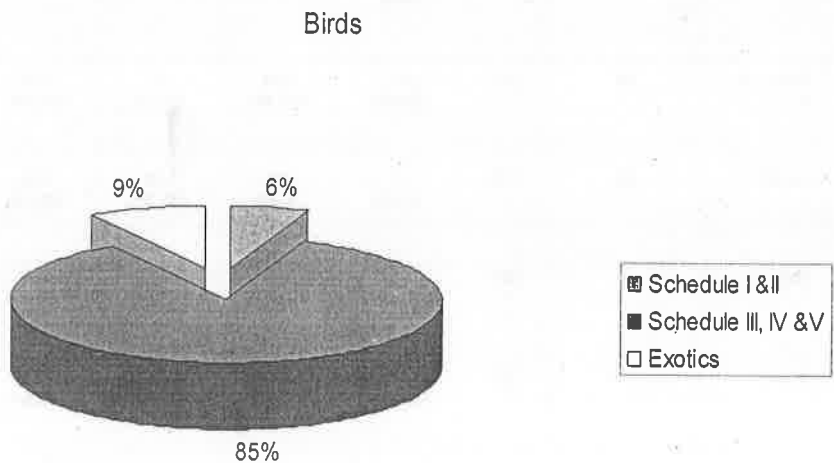


Chart showing the % of Birds species in Sch I&II, Sch III, IV & V and Exotics

Animal exhibits for education

- ☞ Should excite, enthuse and create interest
- ☞ Should encourage understanding of conservation issues
- ☞ Provide range of experience for diverse visitors
- ☞ Revitalize focus on education Maximize educational activities
- ☞ Develop appropriate resources
- ☞ Use variety of interpretation techniques
- ☞ Increase visitors receptivity for programmes

Zoo Education outcomes

- Zoo affect human emotion and thinking and change their behaviour
- Empowers people to act positively on Wildlife and Environment issue
- Zoos helps people to appreciate, understand and respect nature

Zoo-A learning centre

- ☞ Ethology
- ☞ Animal husbandry
- ☞ Bio-diversity
- ☞ Ecology
- ☞ Biological Science
- ☞ Cultural Enrichment
- ☞ Genetics
- ☞ Nature conservation
- ☞ Captive Breeding
- ☞ Wildlife Management

Themes for Education

- ☞ Animal classification
- ☞ Discussion about species, habitats, behaviour & conservation
- ☞ Understanding of importance of eco-system
- ☞ Socio -economic value of species and habitats
- ☞ Impact of human behaviour on wildlife & conservation

Biological themes

- ☞ Population dynamics
- ☞ Adaptation
- ☞ Evolution
- ☞ Natural selection
- ☞ Conservation breeding
- ☞ Conservation management techniques

Cultural themes

- ☉ Species in cultural and religious believes
- ☉ Domestication of species
- ☉ Good husbandry
- ☉ Appropriate nutrition
- ☉ Appropriate habitat

Zoo communication with visitors

- ☉ Display boards
- ☉ Interpretation staff
- ☉ Volunteers
- ☉ Electronic communication
 - Information screen
 - Internet
 - Touch screens

Zoo Education

Informal education or self directed learning:

Living animals power of attraction, the wow factor of seeing, hearing and smelling has huge educational significance.

Formal or directed learning:

Education philosophy of zoos should incorporate the principles of environmental education and education for sustainability-conservation education

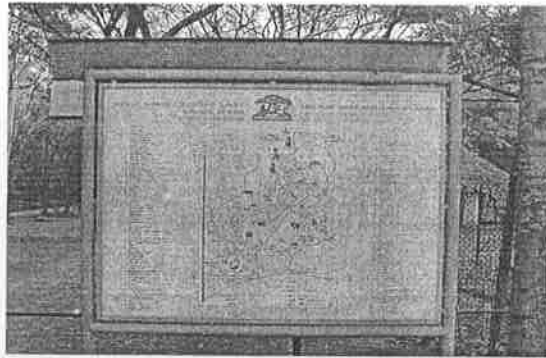
Informal Education

- Presentation
- Graphics
- Keepers talk
- Immersion exhibit design
- Bio-theme exhibits
- Hands on experience

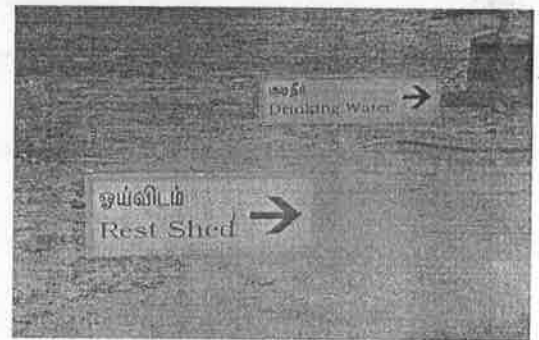
Graphics of Informal Education

- ☉ Signage boards
- ☉ Animal display boards
- ☉ Interpretive boards
- ☉ Interactive interpretive boards

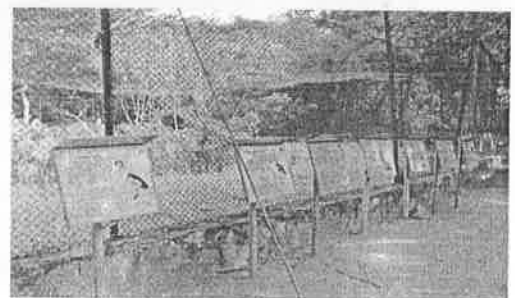
Zoo map & Directional - signage's



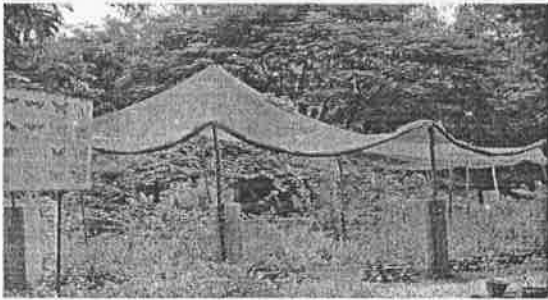
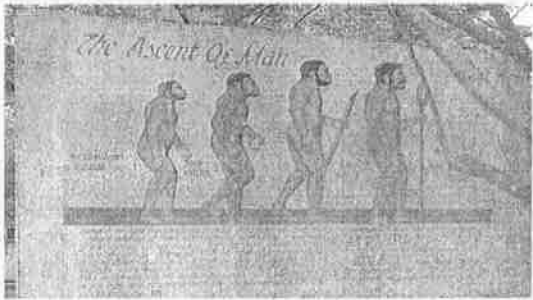
Direction Signage



II. Animal display boards

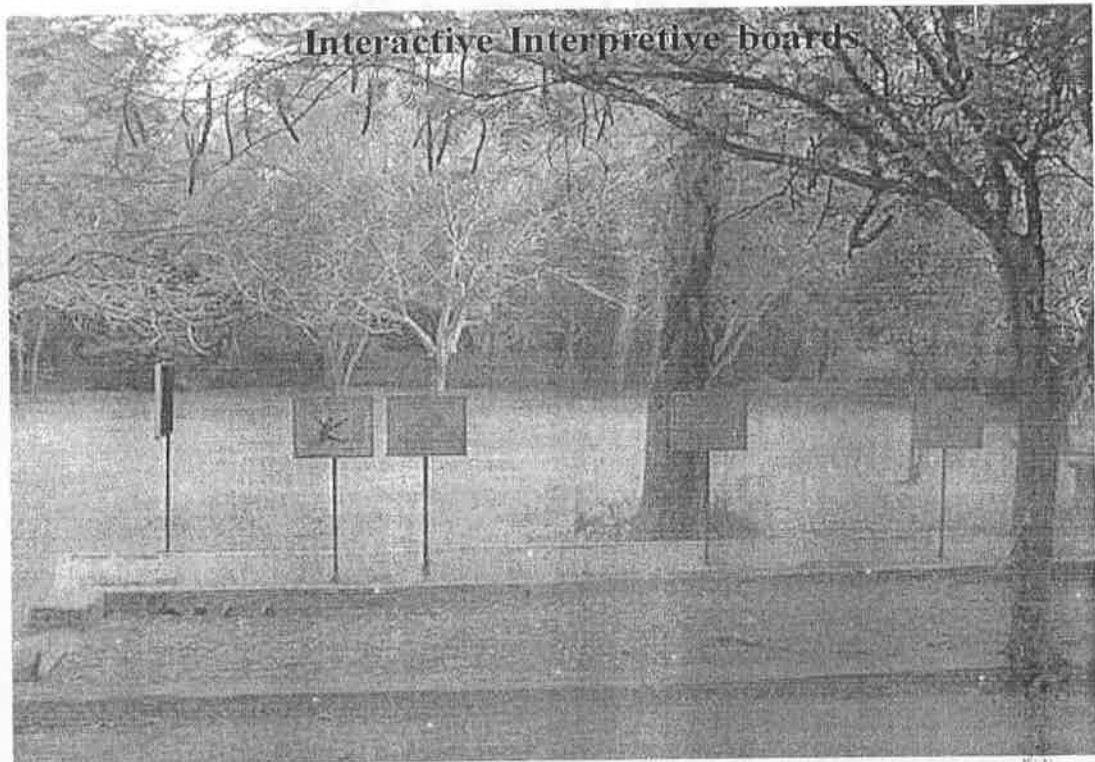


III. Interpretive boards



Interpretive boards – Social System





Formal education

- ☞ Associate with school/college/Universities
- ☞ Prepare exciting, interactive, structured, education programmes
- ☞ Customize for a category/class
- ☞ Interlink with school curriculum
- ☞ Cross curricular -incorporate arts with Socio economic features of environment & nature
- ☞ Develop links and partnership with NGO's
- ☞ Extension programmes- Visit school and colleges

Formal Education and Eco Awareness

- ☞ Zoo Outreach Programme
- ☞ Zoo School
- ☞ Zoo Club
- ☞ Teachers' Training Programme
- ☞ Zoo Volunteers' Programme
- ☞ Zoo Newsletter
- ☞ Zoo Guide
- ☞ Zoo Website
- ☞ Conducted Tours

Zoo Outreach Programme

- ★ Conducting Eco education in the school campus itself
- Voluntary – by the zoo
- Invitation – by the school

Zoo Outreach Programme

- ★ Materials required
- Vehicle
- Projector (Slide & Multimedia)
- Resource Persons
- Resource materials

Zoo Outreach Programme

- ★ Programmes
- Slide Show & Talk
- Live Animal Show
- Organizing Exhibition

Zoo Outreach Programme

- ★ Special Programmes
- Celebrating green days
- Talent promotion



Zoo Outreach Programme

Sl.No	Financial year	No.of programme conducted	No.of participants benefited
1	2000-2001	02	275
2	2001-2002	01	195
3	2002-2003	01	100
4	2003-2004	02	300
5	2004-2005	04	526
6	2005-2006	07	2000
7	2006-2007	07	1000
8.	2007-2008	08	1500
9.	2008=2009	08	1500

Zoo School **'Think Globally, Act Locally'**

- * Education – mandate of Zoo objective
- * Target Groups – Students, Teachers & Public
- * Course Duration – One day
- * Programme Design – Half a day: Classroom session, Half a day: Field trip
- * Participants – Institution and their Heads
- * Training Methodology – Class room, AV equipment, Resource persons; Resource materials
- * Source of Resource materials
 - Zoo Outreach Organization, Coimbatore
 - Tiger Toolkit
 - Dare to Care for Bears
 - About Bats
 - Primates in Peril
 - Arignar Anna Zoological Park,
 - Zoo Folder
 - Zoo Pamphlets
 - Post cards
 - Stickers
 - Zoo Newsletter

Zoo School programme – Tiger Toolkit



Zoo School programme – About Bats



Zoo School programme – Primates in Peril



Zoo School programme – Talent Promotion



Zoo School Programme

Sl.No	Financial year	No.of programme conducted	No.of participants benefited
1	2000-2001	2	275
2	2001-2002	34	675
3	2002-2003	22	675
4	2003-2004	69	4038
5	2004-2005	101	7384
6	2005-2006	108	8176
7	2006-2007	163	15938
8.	2007-2008	204	22230
9.	2008-2009	208	20438

Zoo Club

*** To support Zoo activities**

*** Screening of Polythene**

*** Educating the visitor**

*** Crowd management**

*** Guiding public**

*** Preventing Vandalism**

*** Campus cleaning**

Zoo Club – Screening



Zoo club volunteers programme

Sl.No	Year	No.of Institution Participated	No. of volunteers participated
1	2001-2002	12	240
2	2002-2003	10	300
3	2003-2004	10	350
4	2004-2005	05	075
5	2005-2006	08	300
6	2006-2007	08	200
7	2007-2008	10	300
8	2008-2009	08	340

Teachers' Training Programme

✧ Linking Zoo with Schools

✧ Educating a teacher = Many number of Students

Teachers' Training Programme

Course Module

- Importance of Wildlife Conservation
- Factors responsible for extinction of Wildlife
- Know the Indian Wildlife diversity
- Role of zoos in Conservation and Education

Evaluation

- ☉ Aids in planning for effectiveness of Education programme
- ☉ Reflects change in peoples attitude
- ☉ Use variety of methods to evaluate education programme

Casual observation

Surveys

Questionnaire

Teachers in the Classroom



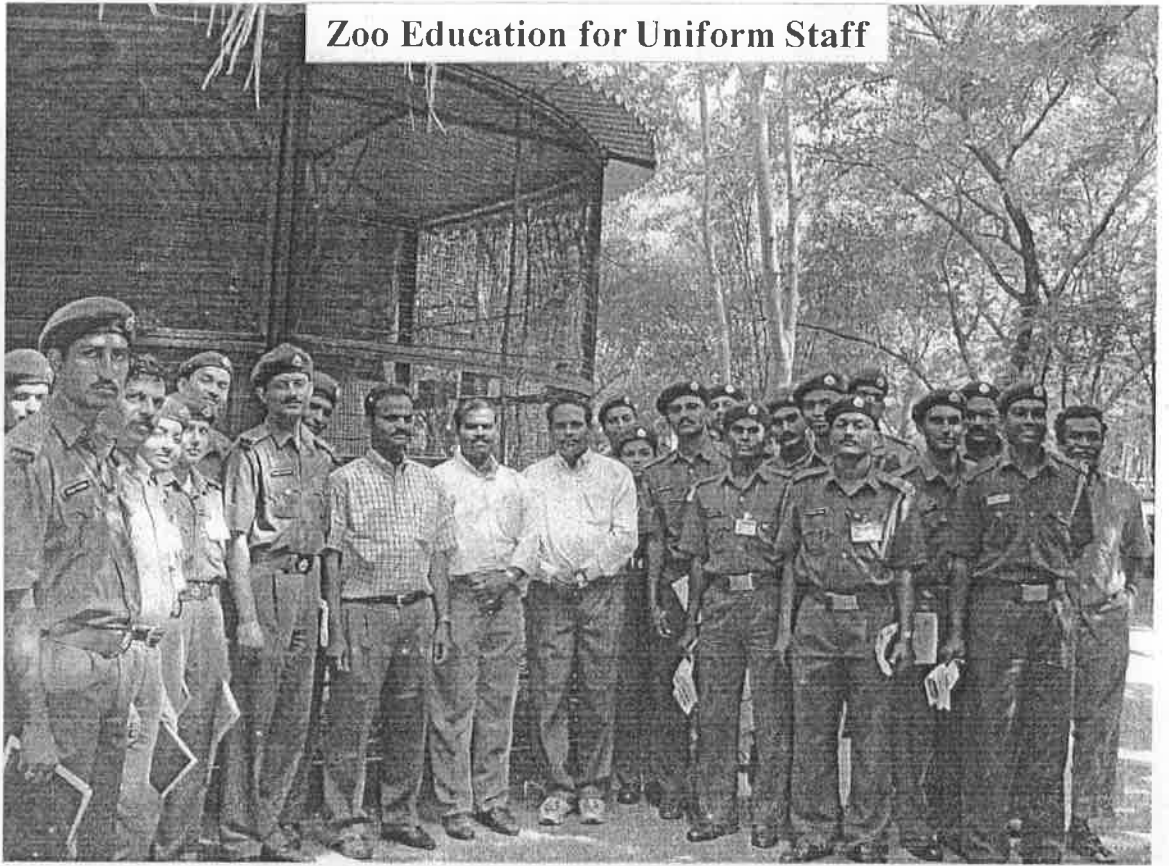
Zoo Field Trip - Seeing is Believing



Teachers' Training Programme

Sl.No	Financial year	No.of programme conducted	No.of participants benefited
1	2000-2001	8	201
2	2001-2002	5	127
3	2002-2003	7	533
4	2003-2004	26	1377
5	2004-2005	13	1043
6	2005-2006	05	189
7	2006-2007	09	1085
8.	2007-2008	08	420
9.	2008-2009	05	300

Zoo Education for Uniform Staff



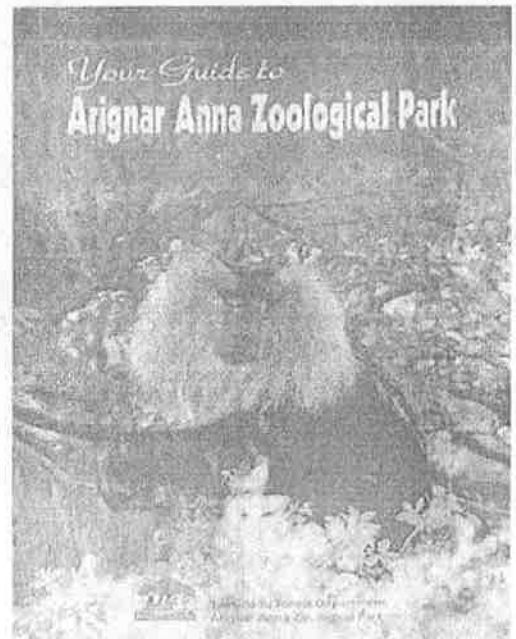
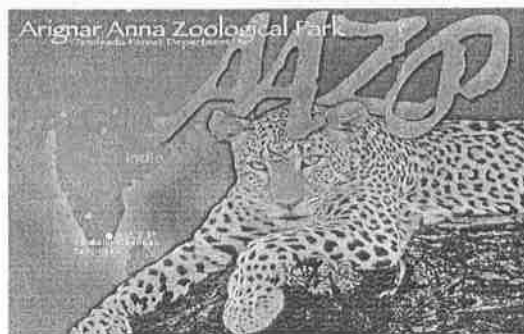
Other programme



LTM CONSERVATION AWARENESS PROGRAMME



Zoo publications



Research in zoos

- ☞ Zoo are potential source of basic scientific knowledge
- ☞ Indian zoos to make animal collection available for relevant research endeavors
- ☞ Zoo have limited No. staff for research
- ☞ Zoo to have MOU with research institutions and Universities
- ☞ Zoo and Research institution to mobilize financial resources from organization for research
- ☞ Indian zoos to identify research priorities
- ☞ Research report/data to be exchanged

ON GOING RESEARCH PROGRAMME



- Co-ordinated captive breeding program for Lion Tailed Macaques.
- Population control measures in prolifically breeding animals in AAZP (Marsh crocodile, Spotted deer, Sambar, Blackbuck, Lions)
- Sponsored by CZA.

Zoo staff training

- Zoo education require -
Skill, Creativity, inventiveness
- Use wide variety of education techniques
- Professional approach
- Knowledge of composition and motivation of zoo public
- Formulate Education plan

Developing Education Materials On Conservation Education



“How to be creative”

your education materials



Zoo staff and field level forest officials (Foresters, Rangers & Veterinarians) training programme



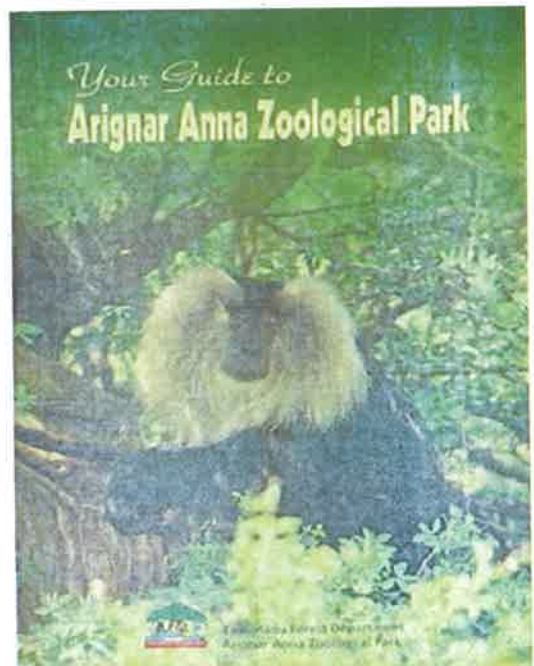
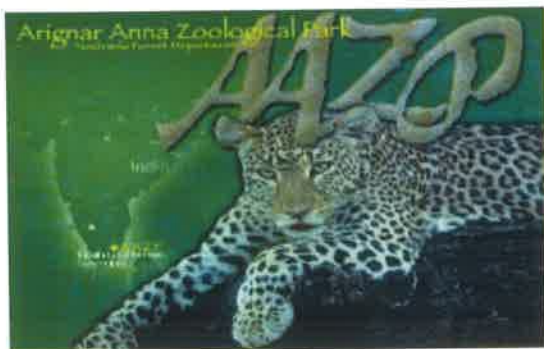
Create new world with sustainability



LTM CONSERVATION AWARENESS PROGRAMME



Zoo publications





NGO NETWORK



CPREEC has an extensive network of about 600 NGOs. All educational programmes are carried out in partnership with the State governments, NGOs, Universities, Colleges and Schools.

TARGETS

- **Teachers , teacher trainees**
- **Magistrates, advocates, law students**
- **Students – Green School Initiative**
- **Curriculum developers,Text Book writers**
- **Women**
- **General public**
- **NGOs**

Want to educate Zoo visitors ?
How? Well.....you have to



Catch their Attention !

How? Wellwith creativity !
Catchy slogans or wordings



Something magic?

People think there is something "magic" or "Special" about being creative
No you can train yourself to be creative by following very simple ways

Necessity is mother of invention

Invention leads to.....Innovation

Innovation leads to.....creativity

**What do you need?
Look first at what you have
Make what you have...fit what you need
The result is innovation....or
Creativity**

Result.....?

Sometimes very good....

Sometimes not very good

Sometimes terrible!

But practice makes very perfect

Once upon a time we at Z.O.O. needed a sticker and a brochure

Not enough money for both
What to do?

Result....a sticker which attached to a brochure

- We got both for one price
- It was a curiosity so it attracted attention
- We "won" in all ways by NOT giving up when there were obstacles



Learn about Amphibians

Amphibians are the only animals that can live both on land and in water.

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Amphibians are the only animals that can live both on land and in water.

Types of Amphibians:

Salamander

Frog

Toad

Newt

Hellbender

Axolotl

Poison Dart Frog

Tree Frog

Poison Frog

Poison Frog

Poison Frog

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Sociologists study in innovation in business is:

1. Individually motivated
2. Opportunistic
3. Customer responsive
4. Tumultuous
5. Non-linear
6. Interactive

BUT...just in case you don't have a work set-up that fits that description
Here are some simple lessons to teach yourself to be creative. But you have to Practice.

Lesson 1

Think in terms of similarities and opposites

Small-----Large

Slow-----Fast

Good-----Bad

Hot-----Cold

Short-----Tall

Big-----Little



Conservation Message

The slooow loris.....is going Fast!
Due to pet trade



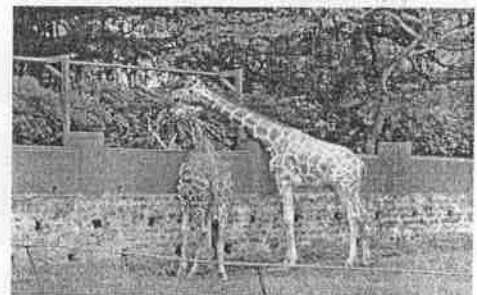
Conservation Biology Message

Small populations of wild animals... BIG Problems



Biological Message

The tall giraffe is short on Brains



Lesson -2

Use literary techniques

Use drama, poetry and literary techniques...exaggeration, alliteration, rhyming, repetition, slang, humour, irony, puns....

Alliteration

- ❖ Tree top trail
- ❖ Fragile Forest
- ❖ Champion Chewer

- ❖ I'm Mithun not for you meat
- ❖ I'm Mithun to meet you as friend
- ❖ I'm Mithun and meaningful





Exaggeration or irony

Example: Vultures.... they keep the world clean.
Imagine life (or death) without them

Use Repetition of words, letters, sounds

Win friends for wildlife.....
The Elephant is relevant to Environment.....



Use Rhymes.....

Born in the zoo....
Safe from Shikharis But
Not from you

Some visitors of destructive to our
animals --- Please do not tease or
feed

BORN IN THE ZOO
SAFE, FROM SHIKHARIS
BUT NOT FROM YOU !!



EVEN THE FEROCIOUS ANIMALS NEED PROTECTION FROM THE
DREADED ZOO VISITORS!
DO NOT FEED THE ZOO (OR ANY) ANIMALS
ANIMAL WELFARE FORTNIGHTLY - 1991

Use Alliteration and puns



The "dearest" deer.....*Sangai*

Polar bear just can't BEAR too much
heat!



জানোমগী শঙাই



কলবান্ন ভেংবাংবিয়ু

Lesson 3

Play on emotions

Personalize issues

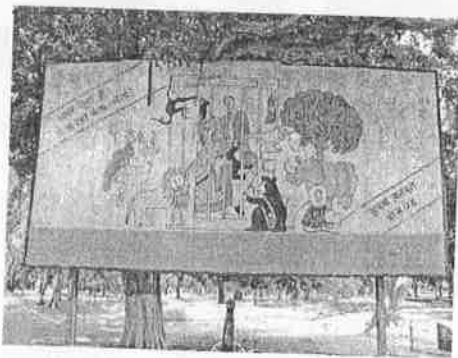
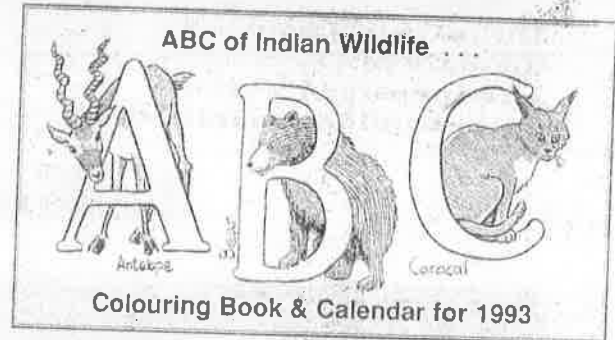
Example: Our Sangai....

"Aikhogi Sangai" in local Manipuri language

Lesson 4

Use time -tested concepts
in new ways

Example: ABC of animals



Time tested Universal concepts

Example: the Golden Rule "Do unto others
as you would have them do unto you"

Put yourself in their place
Do not tease the animals



Lesson 5

Use repetitions with slight changes...

Example: Lion-tailed macaque—LTM
 endemic to
 Indigenous to.....
 Endangered in.....
 Western Ghats, South India



Lesson 6

Be a copy cat....

Use familiar slogans from ads, political campaigns etc., altering them to suit your message

Example:

The mark of a man
 the mark of a lion
the pepsi generation
the wildlife generation

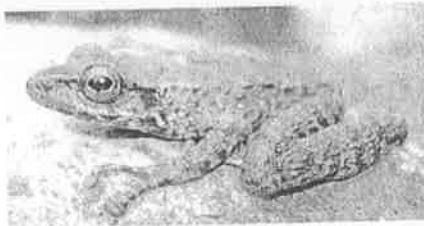
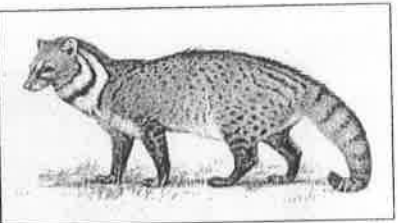


Lesson-7

Accentuate the negative

Get attention by being rather frank...
 then explain

Example: Phew! Whata smelly Civet!
 (But NOT to another civet....the scent of some
 animals is useful to them in finding a mate etc.,)



Accentuate the positive

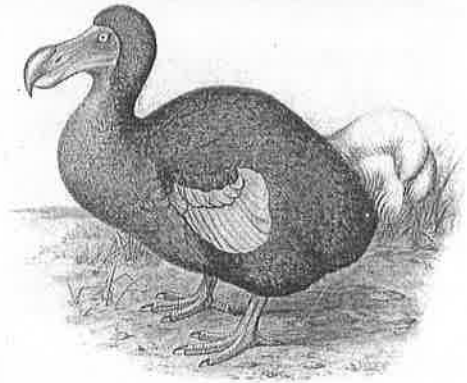
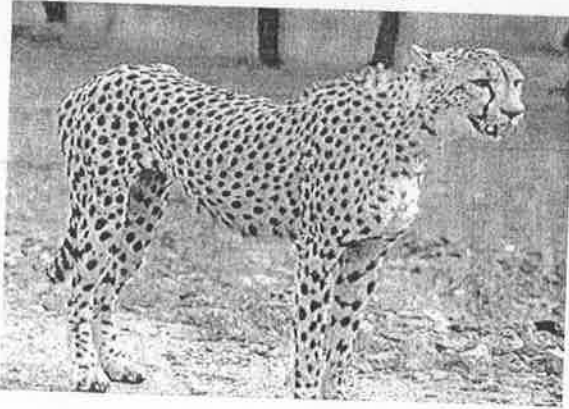
The EYES have it!

Frogs are fine fellows
 The unusual, large, dramatic....combine it
 with a pun & rhyme

Lesson-8

Play the bad news in easy to remember slogans and drama

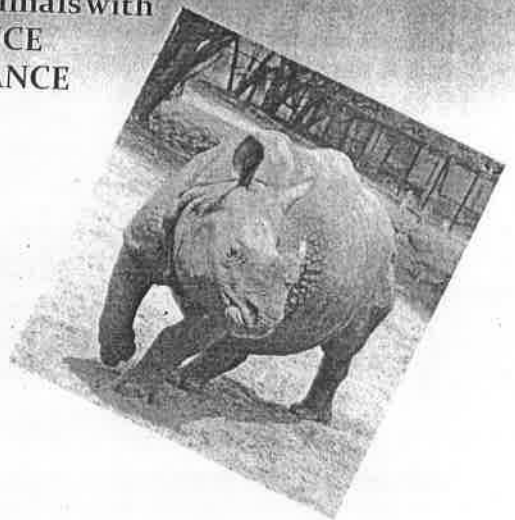
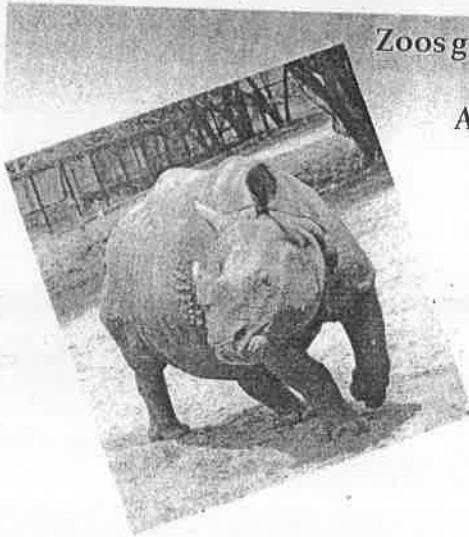
Extinction is forever
You and your children will never see....



Lesson-9

Play up the good news about zoos with catchy slogans

Zoos give wild animals with
NO CHANCE
A LAST CHANCE



Lesson-10

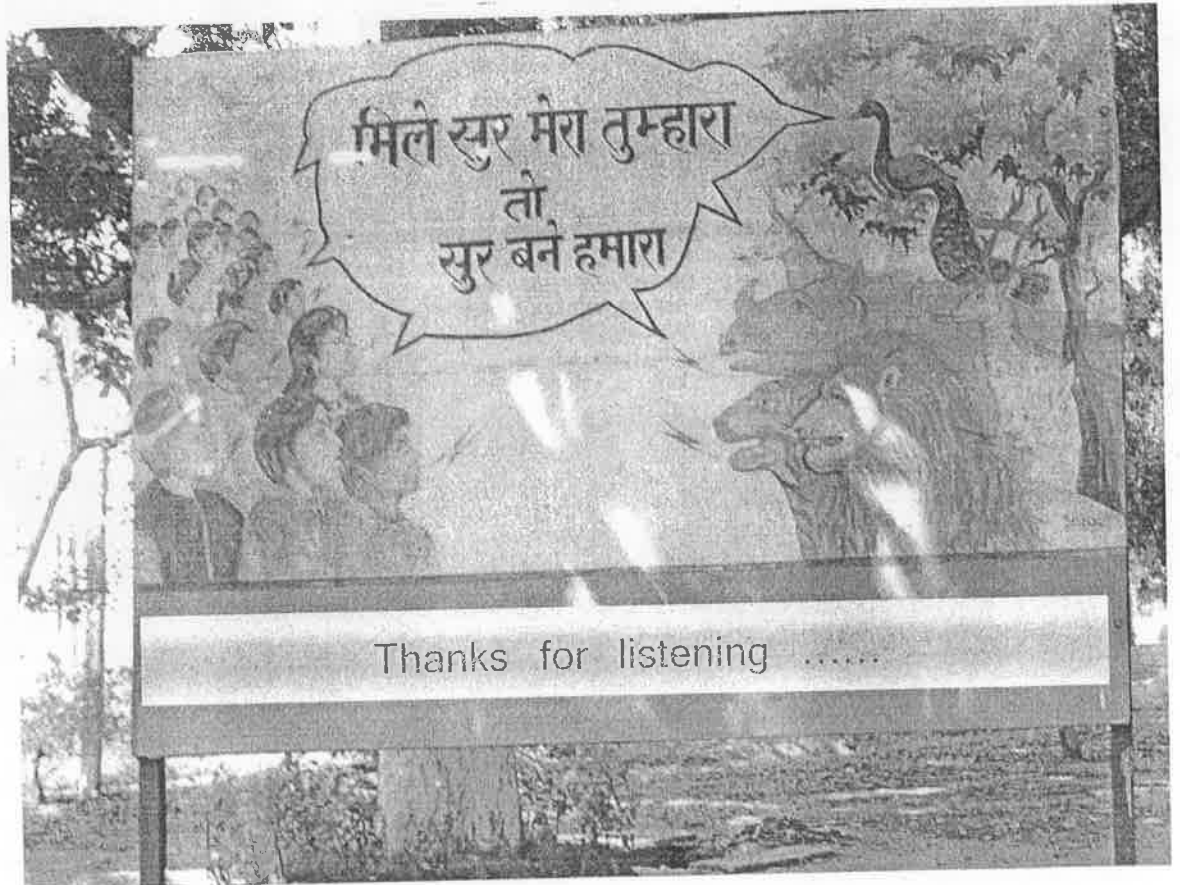
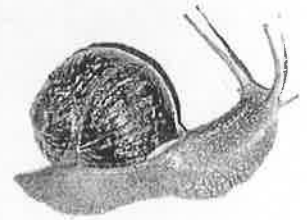
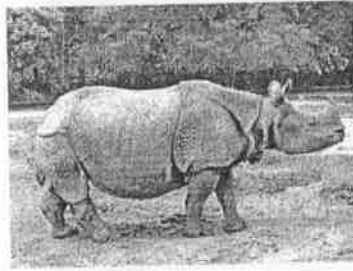
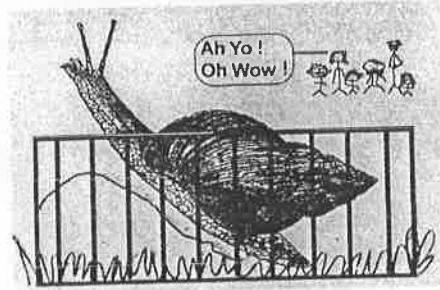
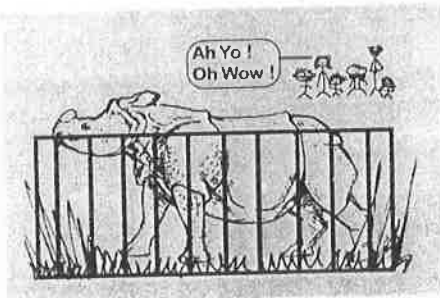
Don't forget the small things

The only difference between a rhino.....

And a snail is its

SIZE

So Size does matter...



TRAINING

Annually CPREEC organises

- Programmes on Environmental Education
- Programmes on ENV. LAW
- Programmes on BIODIVERSITY
- Programmes on Island Ecology in Andamans
- Programmes for WOMEN
- Programmes in NBR

WE HAVE REACHED OUT TO



.....43,000 teachers



...1,10,000 students



...31,000 NGOs & Rural
workers

...17,000 women

RESOURCE MATERIALS for EE

- Environmental Education – a Teacher's Kit
- Environmental Concerns of India
- Activity books for students - Tree, Water, Animals, Fun at the Beach
- Young Environmentalist's D-I-Y manual
- Attractive posters

ELEPHANT CONSERVATION

- Elephants the sacred animal of India
- Tropical forest systems of India
- Role of the pachyderm in forest ecosystem
- Elephants as key stone species in ensuring survival of other mammals.
- Indian culture and animal worship in India.
- Distribution and status of elephants in India.
- Role of individuals in elephant conservation

PEOPLE'S BIODIVERSITY REGISTER

- Biodiversity – Definition, types
- Objectives of the Biodiversity Act 2002, Rules 2004
- Importance and need for preparing People's Biodiversity Register (PBR)
- Methodology for preparation of People's Biodiversity Register
- Use of PBR in conserving indigenous biodiversity
- Role of stakeholders (Teachers, local body members) in biodiversity conservation
- Case studies

Biodiversity day celebration May 22, 2009



Survey of Public Amenities at Patna Zoo

- Harpal Singh, Block officer, Chatbir zoo
- Riaz Ahmed Khan, National zoological park, Delhi
- Dr. Dilip Yardi, Aurangabad
- T. R. Pandey, Kanpur Zoo
- K. Gangadharan, Thiruvananthapuram

Things that we appreciated at the zoo

- Very good vegetation
- Pavements in 9 areas
- Litter bins in 42 places across the park
- 14 Drinking water points
- Pavilions: 32 six sitter sitting points, 11 small sheds and 2 big sheds
- Toy train for visitors
- Local material huts – 2 nos

Things that we appreciated at the zoo

- Large native trees
- Good lawns
- Very less polythene litter in the zoo
- Boating facility
- Wheel chairs for handicapped – 2 nos

Suggestions for the park

- Pavements can be increased .They are there in 9 areas currently
- Direction signage are available in 13 places but needs repainting. They can be placed in all the paths. Also, some signs can be repainted for the convenience of the visitors. Multilingual signs can be done.
- In the litter bins, waste was burnt. Waste management protocol is needed
- Telephone booths can be added
- Gift shop can be added.

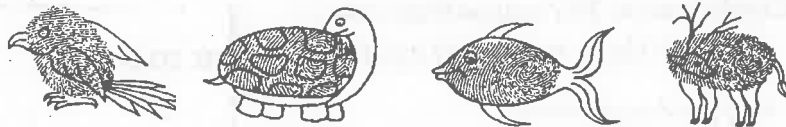
Suggestions for the park

- Mobile charging points can be added.
- The water points need to have a sign stating that the water is for drinking
- Canteens and ice-cream parlor need to be neat and have variation in items sold.
- Main gate can be made thematic
- Toilet facilities were very poor . Specially the open men's urinals were very unhygienic.
- Telephone

Increase your Handprint and Decrease your Footprint

Presentation by

Meena Nareshwar, CEE



- ***In the 21st century, it is important to develop [the educational role of zoos] so as to have an active and direct impact upon people's attitudes and behaviour. In this way, awareness will be converted into action that has positive benefits for wildlife, people and conservation. (WAZA)***



- It is proposed to weave sustainable action generated by all programs of the Zoo as a *Hand Print*.
- This is possible by promoting all sustainable action at Zoo as Hands for Change; this will also enable enumerating positive actions by visitors at Zoo.
- These will highlight a variety of sustainable action messages identified in line with the overall sustainability strategy of the Zoo.

Need for a Strategy

The strategy should include networking and information sharing with other organizations (for marketing and benchmarking) and increasing, through training, the professionalism of staff communication skills.

Zoos should use the full range of communication media available and recognize that all staff and volunteers need to be well informed, so they can act as message bearers in their families and communities.

contd.....

Probably the most effective way that zoos can encourage attitude and behaviour change for a sustainable future is by example.

Zoos should strive to become environmentally sustainable in all their activities - from evolving policies to management style, from use of resources to public relations.

Zoos should celebrate and share these activities with the public visitors as well as non-visitors.

Zoos and Sustainability

Zoos have the potential to be extremely important agents of change in creating a sustainable future and ensuring the conservation of species and habitats on a global scale.

Use the zoo's educational resources to help people understand why changes are important and what they can do personally to live in a more sustainable manner.

A few ways of doing this in a Zoo ...

Be energy efficient

- Maximize energy efficiency in all on-site and off-site operations.
- Try to reduce travel-related energy consumption.
- Efficiently maximize the use of energy which is produced and distributed, especially from renewable sources.
- Apply the three R's reduce, re-use, recycle where possible.
- The Zoo could conduct and maintain energy audits

Use environmentally sound waste management

- Minimize the total production of waste.
- Manage separation of waste at source to encourage maximum re-use and recycling.

Minimize the risk of polluting.

If you pollute, you pay

- Support the general principle that the polluter should not pass on to others the cost of cleaning up pollution.
- Apply the principle in your own institution as a measure of good practice.

Put local consumption first

- Maximize the proportion of goods and services that come from local providers with acceptable environmental practices.
- Reduce the environmental impact of transportation wherever feasible.

Apply the precautionary principle

- Obtain and analyze as much information as possible before making a decision.
- When in doubt, put in place measures to reduce environmental impact.

Encourage public awareness and participation

- Use the zoo's or aquarium's educational resources to help people understand why changes are important and what they can do personally to live in a more sustainable manner.
- Set an example for other businesses in Earth-friendly operations.

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- Set an example for other businesses in Earth-friendly operations.
- Using recycled and environment friendly materials in construction of buildings, enclosures etc.
- Recycling waste generated within the zoo, e.g. office paper, bottles, tins, organic waste from animals and restaurant, etc.
- Declaring and maintaining the zoo as a plastic free zone.
- Using and promoting fuel efficient vehicles.
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- Using and promoting fuel efficient vehicles.

Zoos and Climate Change

- Burning fossil fuels (coal, oil, and natural gas) in particular has led to a significant increase in the amount of carbon dioxide released into the atmosphere. Individuals and organizations, through their use of energy, generate CO2 emissions – these emissions are generally known as a “carbon footprint.”
- By reducing the amount of energy we use, changing the source of our energy and simultaneously removing CO2 from the atmosphere through carbon sequestration, we can reduce the amount of CO2 in the atmosphere and diminish its effects on global ecosystems and wildlife.

Climate is what you expect, weather is what you get

Climate tells us what is usually like in any place (hot dry, weather can change over a short time, it could be sunny for an hour and then it might rain).

Climate Change is something we have been hearing quite often lately!

Climate Change is real! Earth's climate has been changing. Scientists say human beings that are responsible for this current change in climate.

Climate Change is due to global warming. How fast is the Earth warming, it still isn't known, but there has been a considerable warming over the years! About 0.4°C of this warming occurred in the last 35 years.

Small variations in temperature could have big impacts. Every aspect of life on Earth will be affected directly or indirectly by this warming.

The Greenhouse Effect, what is that?

Greenhouse gases like carbon dioxide (CO₂), methane (CH₄), nitrogen (N₂) present in the atmosphere absorb some of the sunlight that hits the Earth's surface, so that the Earth is warm enough for life to exist, without this the earth would be freezing cold. This natural phenomenon is known as the Greenhouse Effect and this causes global warming.

Green House Gases (GHGs)

- CO₂ (using fossil fuels, burning biomass)
- CH₄ (ruminants, livestock)
- N₂O (fertilizers, industrial activities)

Global Warming

As the quantity of GHGs increases in the atmosphere, more heat is retained on the Earth's surface resulting in the increase in the earth's average temperature. This phenomenon is known as Global Warming.

All of us contribute to global warming by sending out GHGs. Do you know what behaviors you...

- Watch TV
- Use the Air Conditioner
- Turn on a Light
- Use a Hair Dryer
- Ride in a Car
- Play a Video Game
- Listen to a Stereo
- Walk or Dry Clothes
- Use a Dish Washer
- Microwave a Meal

CEE

CLIMATE CHANGE WILL AFFECT EVERY ASPECT OF LIFE

"The fluttering of a butterfly's wings can effect climate changes on the other side of the planet" - Paul Erlich

30 out of 100 species are likely to get extinct. Climate change could kill more than a third of the world's plant and animal species by 2050.

Some have been already wiped out. The first victim was the Dodo bird.

Decreasing water availability. This will lead to irrigation problems and increasing droughts in areas like India, China, Australia, South America, Africa.

Agriculture is dependent on water. Climate change will impact water more strongly decreasing the food availability. Cereal productivity will decrease in some regions.

Increasing rate of malnutrition and diarrheal and infectious diseases like malaria, cholera, bird flu, increased number of deaths due to heat waves, floods and droughts.

There will be more powerful floods and storms. A number of global wetlands could be lost, ice caps are melting and as a result sea levels are also rising. The oceans will get warmer, its water will expand and sea level will rise. Places like Maldives, Bangladesh, Indonesia, Netherlands will need its large populations to be evacuated due to flooding or submergence of the entire islands.

There has been a rise of 0.4°C over the last 35 years. If this temperature continue to rise at this rate then it is predicted that it will rise by about 1.3-3°C by 2100.

CEE

Increase your Handprint? Increase your footprint!

• Thank you

Branding and Marketing

...a way forward for Zoos

The Brand

- Think of a brand. What comes to your mind immediately?
- Top of the mind awareness
- How do you feel about the brand?

What Do These Brands Mean To You?

- National Geographic
- Coca cola
- IBM
- San Diego Zoo
- Bernard Harrison

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- National Geographic
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Building Brand Equity

- Brand equity - how much is the brand worth?
- What kind of images and feeling do they have when the brand is mentioned?
- Companies with strong brand equity enjoy recognition, and others love to be associated with them

Building The Brand

- Product creation
- Product positioning – how do you want people to see and feel about your brand?
- Singapore Zoo - a rainforest zoo
- Jurong Bird Park – a world of living colours
- Night Safari – the first and only

Delivering What The Brand Promises

- Rainforest setting where visitors can enjoy a day's outing. Good visitor services and facilities.
- Rainforest animals eg. Orang utans are our flagship species. Good exhibits – healthy animals, naturalistic landscaping and well-maintained exhibits.
- Conservation education through keepers interaction, feeding programmes, shows, interpretives, activities, etc.

Creating Brand Awareness Through Marketing

- A good product must have a good marketing strategy.
- Need to tell people about your brand
- Advertising, publicity through newsletters, EDM, the media and promotional activities.
- Must deliver what you promised unless the brand loses credibility.

The Colour of Singapore Zoo Marketing is Green

Marketing Communications Division

- Staff strength = 22
- Advertising and Promotion
- Graphics
- Corporate Communications (PR)
- Sales (tour operators, trade shows)
- Corporate Development (fund raising)

Media Relations

- Fear not. Turn enemies to supporters.
- Use the media to your advantage.
- Be proactive. Tell them about good news, don't talk to them only after bad things have happened.

Be Proactive

- Media previews – new exhibits, new programme eg tiger operant conditioning, special occasions Media planner – generate stories for media to carry every month
- New arrivals, births, pregnancies,
- Animal celebrities events, staff profiling, volunteers, new equipment, sponsorship of unique features, etc.
- Selection of spokesperson – who can talk to the press, setting protocol.

Crisis Management

- Before crisis happens – SOPs, protocol must be in place
- When it happens – appoint spokesperson(s), tell staff about not talking to press and disciplinary actions if they do.
- Closure – address issues and talk about corrective actions taken.

Corporate Development (fund raising)

- Animal adoption – giant pandas
- Exhibit, Facilities adoption – amphitheatre, education centre, proboscis monkey exhibit
- Programme sponsorship – publications, TV programmes, SPH Foundation Conservation Ambassador and Wildlife Buddies
- Event sponsorship – eg Zoolympix sponsored by Abbott Laboratories (milk product)

Donations

- Outright donations
- Donations to a Fund for tax exemption
- Fund raising events eg flag day, gala dinners, auctions
- Donation boxes

Engaging Adopters/Donors/Sponsors

- What do they want?
- Anonymous – you can only guess.
- Like to be associated with your product because it is great.
- Build their own brand equity and positioning – want to be seen as a green company

Engage, Engage, Engage

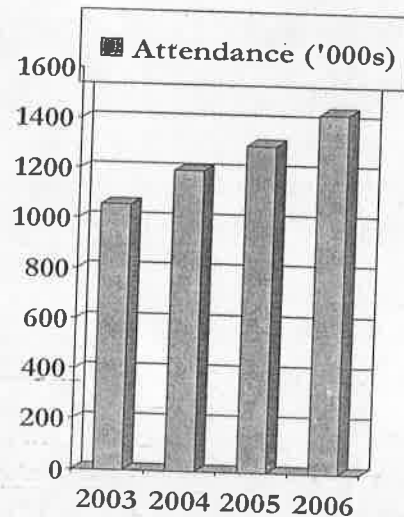
- Adopters want more than just a sign near the exhibit.
- They want to build their brand through programmes, activities and to do good for the community.
- SPH Foundation and conservation ambassadors and buddies programmes,
- Abbott Laboratories adopted the giraffe and Zoolympix (activities at giraffe exhibit a must)

Polar Bear Campaign

Brief Background

Singapore Zoo

- Overall attendance experiencing healthy growth since 2003
- Ratio of tourists to locals is 30:70 (up from 20:80)
- High repeat visitorship from locals due to constant programs and activities during key periods like school holidays and public holidays



Marketing Guidelines

- “Promotion” always focused on existing exhibits
 - thus equity built up during the publicity blitz is not lost when the “promotion” ends
- Underlying conservation and education themed
- 360 degree marketing campaign involving activities
 - on-print
 - on-air
 - on-line
 - on-ground
- Involving joint partners and all departments
 - marketing
 - zoology
 - education
 - operations



Objective

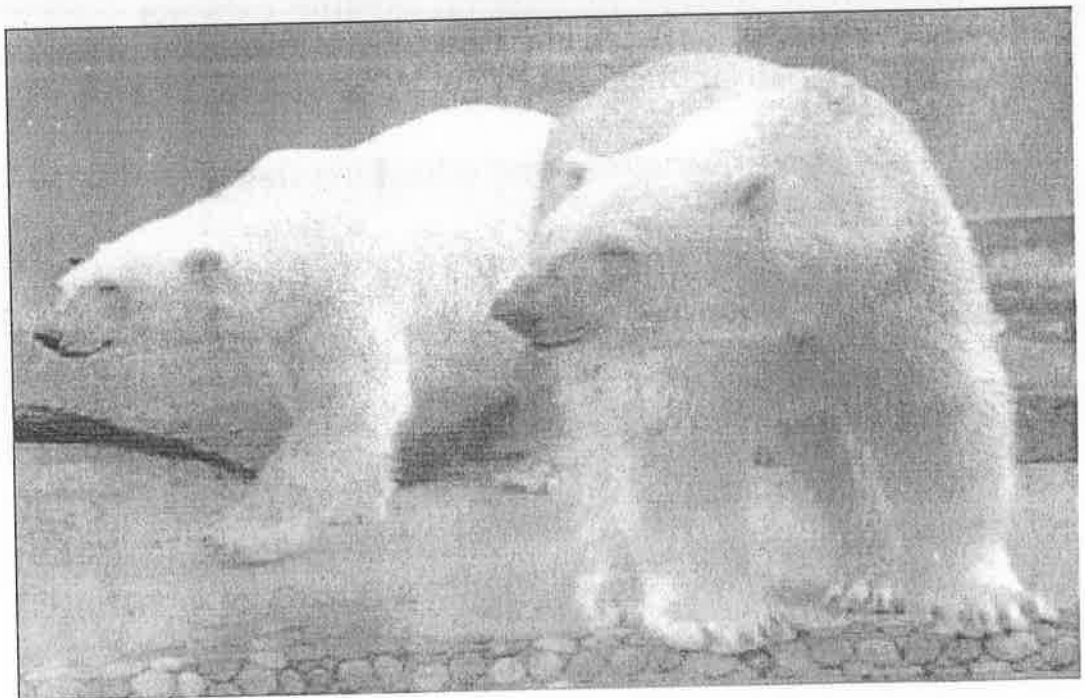
- Year end school holidays
highest visitorship
- Select a topical subject
closest to the hearts of the
visitors

Topical subject :
global warming

Favourite subject :
polar bear

Polar Bear campaign

18 Nov – 31 December 2006





Background

- Singapore Zoo has the first and only Polar Bear born in the tropics
 - Inuka, 17 years old born on 26 December 1990 to mother Sheba, 30 years old
- Polar bear exhibit consistently rated top 3 most favourite exhibit in Singapore Zoo
- Debate over whether Polar Bears should stay in Singapore Zoo

Key Message

*Drive home the message of
Global Warming
by using the Polar Bears in Singapore Zoo
to touch the hearts of 1.4million visitors,
70% of whom have seen Inuka grow up
the last 17 years in Singapore Zoo*

On Print

Print ad – half page, full colour

3 insertions
in 2 papers
over 45 days



On Line

Website

On Ground

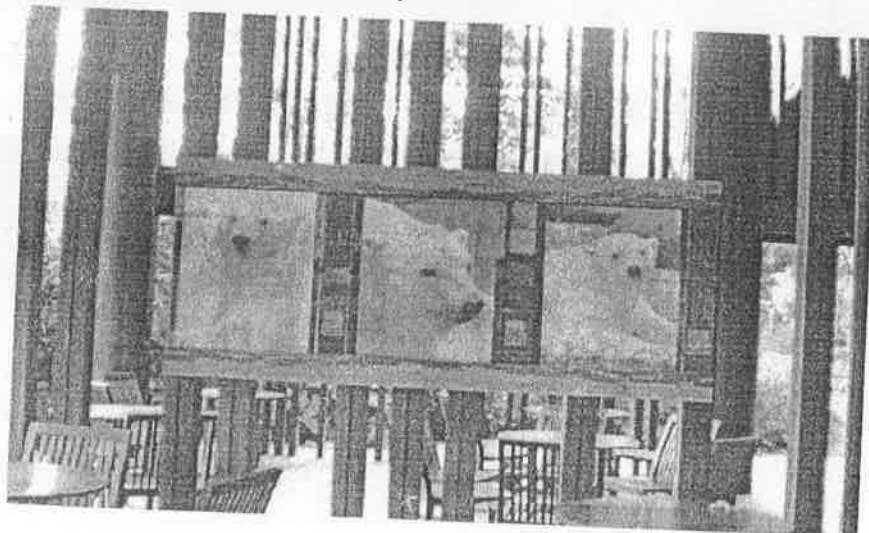
Mandai Lake Billboard



Front entrance



Photo Gallery



Polar direction signage



In park – at exhibit

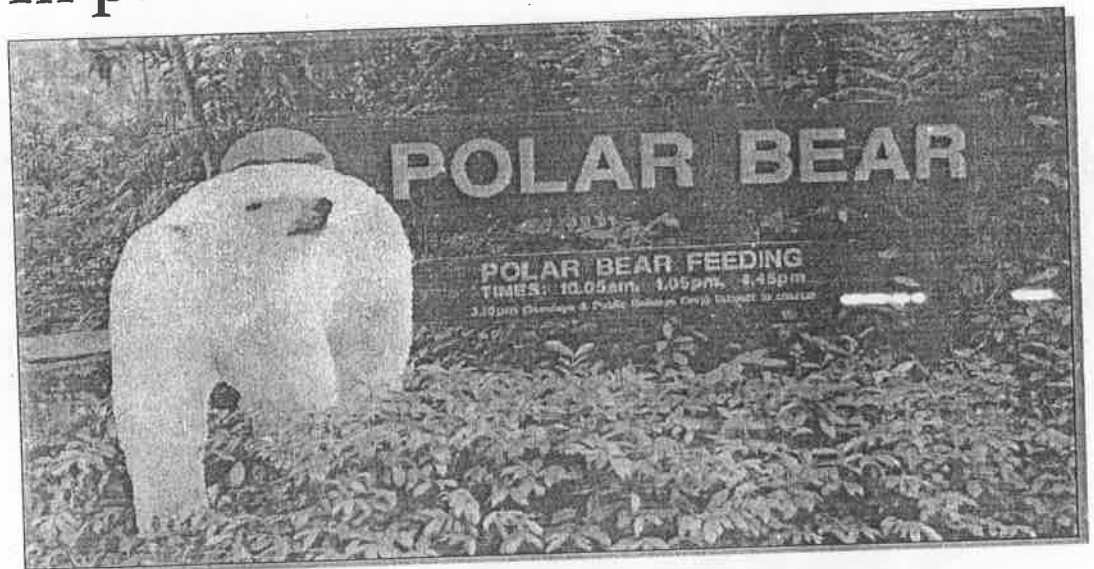
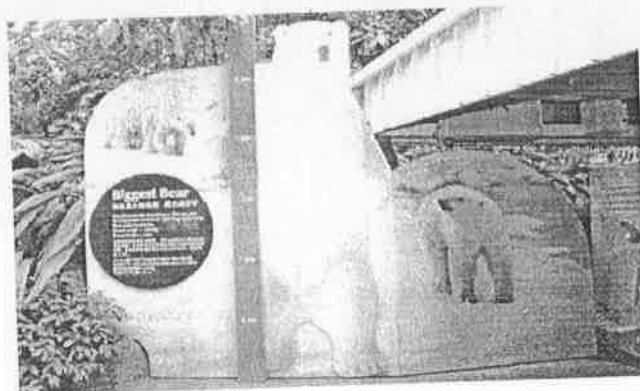


Exhibit interpretives



REPORT ON VISIT TO SANJAY GANDHI BIOLOGICAL PARK, PATNA WITH SPECIAL REFERENCE TO ANIMAL ENCLOSURES, HYGIENE AND UPKEEP OF THE ANIMALS

By Group-4

Date of Visit: 08.04.10

Time of Visit: 16:15 hrs

Venue: Sanjay Gandhi Biological Park, Patna

General Information Received Year of Establishment:
1969

Total area: 153 Acre (63 Acre for Botanical Part and
90 Acre for Zoological Part)

Annual visitor: 15 lacs (Approx)

GENERAL OBSERVATION OF ANIMAL ENCLOSURES:

1. Animals are in captivity are not being displayed in their natural habitat.
2. Construction of animal enclosures are not proper and not properly maintained.
3. Signage are not properly prepared and not shown in all enclosures.
4. Drainage facilities improper.
5. In most cases there is no separate service passage for the keepers.
6. Entry of enclosures are from the viewers side.
7. Enclosure for Giraffe is not scientifically built up.

Special attention:

We have observed that at the top of the chain link there are sharp edges of wires used for knotting the chain link.

As the height of the chain link is same as the height of the Girrafe it (sharp edges of wires) may cause severe wound on their neck.

8. Distance of open air enclosure and open air moated enclosure for big cats from the visitors are short.
9. There is no barb wire barrier in between open air enclosure and open air moated enclosure for big cats with visitor's side which may cause any untoward condition.
10. Stand-off barriers are not properly constructed. Height of the guard railing of those stand-off barriers are short which is unsafe for visitors.
11. Water of the pools and drinking water cubicles are unclean.
12. There is no cover or shed over at some part of the aviary enclosure.
13. There are some enclosures which are remain vacant.
14. The enclosures of reptile house is not properly built up.
15. Environmental Enrichment is improper.

NEEDS TO BE IMPROVED:

The animal section forms the most important nucleus of any zoo. While locating any enclosure for a species, various aspects of vegetation, topography etc has to be kept in mind.

Depending upon the space available for a species, the maximum number of individuals of that species has to be fixed so that their normal biological and psychological needs are fulfilled. The enclosures should be designed to meet those needs of the species as well as easy viewing by the visitors and also as safe for both visitors and the keepers.

Stand-off barrier for bear should be properly constructed for the safety of both visitors and keepers.

The guard railing of stand-off barrier should be raised.

The height of the chain link of the Giraffe enclosure should be raised to minimise any untoward condition.

Environment Enrichment is another aspect that has to be given due importance for ensuring physical and psychological well-being of the animals.

Animals in enclosures as well as in open air enclosures and open air moated enclosure should be displayed in their natural habitat so that they can display their natural behaviour.

Renovation of natural enclosures are needed for more better natural display of animals as in wild not facing any physiological and psychological restraint.

Squeeze cages have to be installed in all the enclosures for carnivorous animals so as to restrain the carnivorous animals in necessity.

Proper drainage facilities has to be improved so that liquid wastes are drained out of the enclosure without contaminating the surrounding enclosures. There should be arrangements for cleaning and disposal of solid waste of the animals from the enclosures/or cages without creating any risks to the animals and safety of the staff as well.

While constructing any enclosure care should be taken in maintaining the natural shape of the enclosure so that during heavy rain fall storm water should swept out of the enclosures in natural process.

The food for snakes should be given not in front of visitors and keep the live chickens outside.

Reptile enclosures should be renovated in modern way keeping in mind about the welfare of the animals.

There should be separate service passage for the keepers for regular entry to the respective paddocks or enclosure and should be at the rear side of paddocks so that the keepers can enter the paddock or enclosures using the service passage causing minimum disturbance to the enclosures and as well as for safety of themselves.

Care should be taken to display taxonomy, distribution and conservation status and activities of various animals through attractive signage and boards in front of every enclosures. It has to be taken care to educate visitors prevention of cruelty to animals. The writing of the signage should be written in both in English, Hindi and local language.

The pheasants should be displayed in separate cages and species wise.

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ROLE OF C.P.R. ENVIRONMENTAL EDUCATION CENTRE IN CONSERVATION EDUCATION WITH SPECIAL REFERENCE TO ZOOS

Dr. T. Sundaramoorthy
C.P.R. Environmental Education Centre
Chennai

C.P.R. ENVIRONMENTAL EDUCATION CENTRE

- 1989 - C.P.R. Environmental Education Centre (CPREEC) established jointly by the Ministry of Environment and Forests and the C.P. Ramaswami Aiyar Foundation as a Centre of Excellence of the Ministry of Environment and Forests. Government of India.

Mission

- To increase knowledge, awareness and interest among the public about the environment in all its aspects
- To develop resource materials for environmental education and awareness raising
- To conduct training programmes for a wide cross-section of people
- To take up environmental projects for demonstration and research

ENVIRONMENTAL EDUCATION

Objectives

- To educate
- To create awareness
- To create commitment
- To motivate individual / collective action
- EDUCATION MUST LEAD TO ACTION
- LAB-TO-FIELD TECHNOLOGY TRANSFER



NGO NETWORK



CPREEC has an extensive network of about 600 NGOs. All educational programmes are carried out in partnership with the State governments, NGOs, Universities, Colleges and Schools.

TARGETS

- **Teachers, teacher trainees**
- **Magistrates, advocates, law students**
- **Students – Green School Initiative**
- **Curriculum developers, Text Book writers**
- **Women**
- **General public**
- **NGOs**

TRAINING

Annually CPREEC organises

- Programmes on Environmental Education
- Programmes on ENV. LAW
- Programmes on BIODIVERSITY
- Programmes on Island Ecology in Andamans
- Programmes for WOMEN
- Programmes in NBR

WE HAVE REACHED OUT TO



.....43,000 teachers



...1,10,000 students



...31,000 NGOs & Rural
workers

...17,000 women

RESOURCE MATERIALS for EE

- Environmental Education – a Teacher's Kit
- Environmental Concerns of India
- Activity books for students - Tree, Water, Animals, Fun at the Beach
- Young Environmentalist's D-I-Y manual
- Attractive posters

CURRICULUM DEVELOPMENT

For

- **Ministry of Human Resource Development**
- **NCERT**
- **SCERT (Andhra Pradesh & Tamil Nadu)**
- **AICTE**

TEXT BOOKS

Written for

- **University of Madras**
- **Andhra Pradesh NGC**
- **Standard I to V of TN Matriculation**
- **Standards VI to VIII of CBSE**

GREEN SCHOOL INITIATIVE (Eco-auditing by School Students)

Started in 2007

- **EE through environmental management approach**
- **Benchmarking for environmental protection initiatives**
- **Reduction in resource use**
- **Improvement of environmental standards in schools**
- **Activity-based curriculum enrichment**
- **Development of ownership**

CHENNAI, HYDERABAD, BANGALORE, MYSORE & OOTY

ENVIRONMENTAL LAW

Training for over 10,000

- Magistrates
- Advocates
- Academicians
- Law students
- NGOs

Resource Material –
ENVIRONMENTAL LAWS OF INDIA – A GUIDE

ENVIRONMENTAL LAW

CPREEC has participated in the drafting of

- National Policy for the Conservation of Sacred Groves and Ecological Heritage Sites for the MoEF, GoI (1998)
- Rules for the Biological Diversity Act, 2002
- National Biodiversity Strategy & Action Plan (NBSAP) (2002)
- Rules for the Protection of Plant Varieties & Farmers' Rights Act, 2001

WOMEN & THE ENVIRONMENT

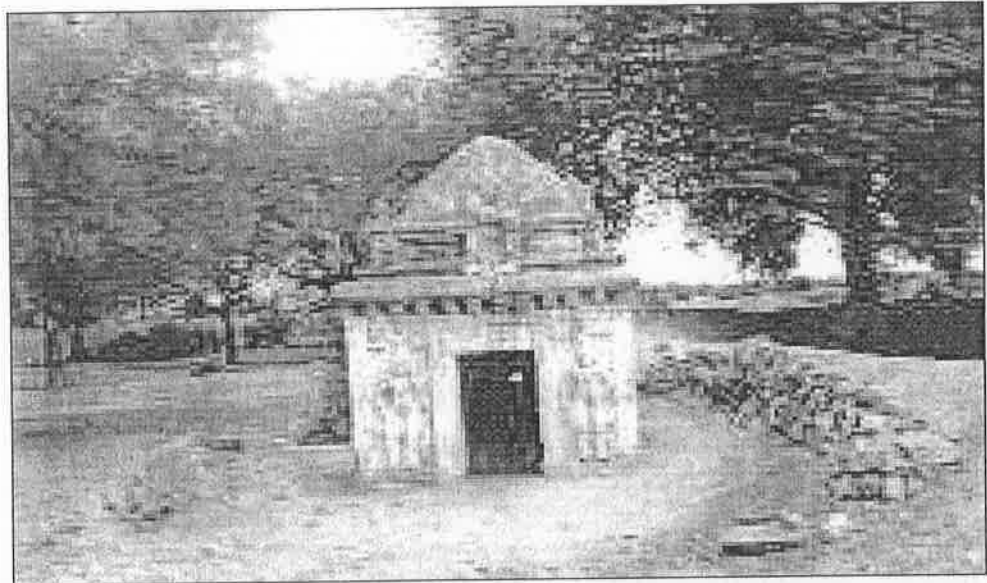
Training in

- Nursery Raising & Plantation, Horticulture
- Vermicomposting
- Establishment of Seed Banks
- Wealth from Waste
- Construction of Smokeless chulhas
- For over 17,000 rural women

Resource Material –

- PLANTATION TECHNIQUES – Disc
- TRAINING KIT

CONSERVATION OF THE ECOLOGICAL HERITAGE - Sacred Groves



- **501 Groves documented**
 - **49 groves restored directly by CPREEC**
 - **Creating awareness among the community: teachers, students & villagers**
 - **After 3 years groves handed over to the local community**
 - **This has inspired the restoration of about 22 other sites by local people.**
- Resource Materials – POSTER, BOOK**

WASTELAND DEVELOPMENT AT NENMELI



WASTELAND DEVELOPMENT

- **Model for**
 - watershed management
 - biodiversity conservation
 - sacred grove
 - organic farming
 - gene pool of medicinal plants with more than 76 species
- **Training centre for teachers, students, farmers, women, NGOs and government officials**
- **Resource Material – FROM BARRENESS TO BOUNTY**

CONSERVATION OF NILGIRI BIOSPHERE RESERVE

- **Environmental Education**
- **Biodiversity conservation**
- **Establishment of a gene pool of 165 species of medicinal plants in Thambatti village, adopting Watershed Management practices**

RESOURCE MATERIALS –

- **POSTERS**
- **UNDERSTANDING NILGIRIS**

LIVELIHOODS FOR INDIGENOUS PEOPLE IN THE NILGIRIS



Kurumba Painting



Kota Pottery



Anti poaching committees have been formed by tribal youth in Mudumalai & Bandipur.

Tiger population has increased from 26 to 37 between 1998 and 2008

EXHIBITIONS

- CPREEC designs three new exhibitions every year and has a bank of mobile exhibits that travel all over India.



Booklets on exhibition topic are distributed free to every student and visitor



DESIGN AND DEVELOPMENT OF 3-D MODELS

For

- APPCB mobile van
- TNPCB mobile van
- Lawrence School, Lovedale
- AP Forest Department

RESEARCH

- Air, Water and Soil Surveys for Govts., NGOs, etc.
- Surveys and studies of natural resources availability
- Environmental Management Projects
- Sustainable Technologies
- Socio-Economic Surveys
- Lab to Field Technology Transfer
- Design and Consultancy
- Conducted by CPREEC on behalf of government and non-governmental agencies

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WATER AND SOIL TESTING KITS

- **Development of low-cost Water and Soil Testing Kits by CPREEC**



- **Water testing kits distributed to students all over India**
- **Soil testing kits used by farmers**

PUBLICATIONS

- **Activity and information books and pamphlets for children**
- **Environmental training kits and books for teachers**
- **Colourful and informative posters**
- **Books for general reading, information and training**
- **ECONEWS - A quarterly magazine**
- **INDIAN JOURNAL OF ENVIRONMENTAL EDUCATION**



- Brought out in ELEVEN languages - Tamil, Telugu, Kannada, Malayalam, Marathi, Punjabi, Gujarati, Bengali, Hindi, Oriya and English
- PRINTED ON TREE-FREE PAPER MADE OF BAGASSE, AN AGRO-WASTE
- Penguin India is re-publishing
 - SACRED ANIMALS OF INDIA
 - SACRED TREES OF INDIA

VIDEO FILMS PRODUCED BY CPREEC

- CONSERVING OUR WATER RESOURCES (English, Tamil, Telugu, Hindi)
- PACHCHAI KOVIL (Temple of Green) (Tamil, Telugu)
- VANADEVATHAI (Sacred Groves) (Tamil)
- BIRDS (Tamil)
- ANIMAL WELFARE (Tamil)

1994
PACHCHAI KOVIL

received the UNESCO Award
for Literacy Follow-up Materials

CPREEC - Website



C.P.R. ENVIRONMENTAL EDUCATION CENTRE

A Centre of Excellence of the Ministry of Environment and Forests, Government of India

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C.P.R. Environmental Education Centre (CPREEC) is a Centre of Excellence of the Ministry of Environment and Forests (MoEF) Government of India, established jointly by the Ministry and the C.P. Ramaswami Aiyar Foundation.

The Centre has been a pioneer in environmental education efforts in South India and has conducted a variety of programmes to spread awareness and interest among the masses.

Our Mission Statement

C.P.R. Environmental Education Centre (CPREEC) strives to increase awareness and knowledge of key target groups (school children, local communities, women etc.) about the various aspects of environment.



You are Visitor Number

ENVIS CENTRE on

CONSERVATION OF ECOLOGICAL HERITAGE AND SACRED SITES OF INDIA



- Collection & collation of data
- Primary & Secondary sources available online
- Publishing books, newsletter and abstracts

ENVIS Website

Home • FAQ • Contact Us • Get in touch • Site Map

Google Search

ENVIS Centre
on
Conservation of Ecological Heritage and Sacred Sites of India



Left Sidebar:

- Home
- Sacred Elements
- Events
- Compendium
- Data Bank
- Media Coverage
- Publication
- Professional Assistance
- Country/Region profile
- Research and Statistics
- Photo Gallery
- Best ENVIS Award 2006
- Site Visitors: 16317

Central Content:

- Sacred Animals
- Sacred Grove
- Sacred Mountain
- Sacred Rivers
- Sacred Waterbodies
- Sacred Plants
- Sacred Gardens
- Sacred Sites

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Contact Information:

C.P.R. Environmental Education Centre
The C.P. Ramaswami Aiyar Foundation
No. 1, Kilanur Road, Alwarpet, Chennai - 600 018
Ph. 91 - 44 - 2434 1776, 2434 6576 Fax: 91 - 44 - 2432 0756
E-Mail: cprnet@vsnl.com, ecche@vsnl.com, cprnet@vsnl.net

C.P.R. Environmental Education Centre is a Centre of Excellence of the Ministry of Environment and Forests, Government of India. This site is optimised for latest version of Internet Explorer with 1024 x 768 screen resolution.

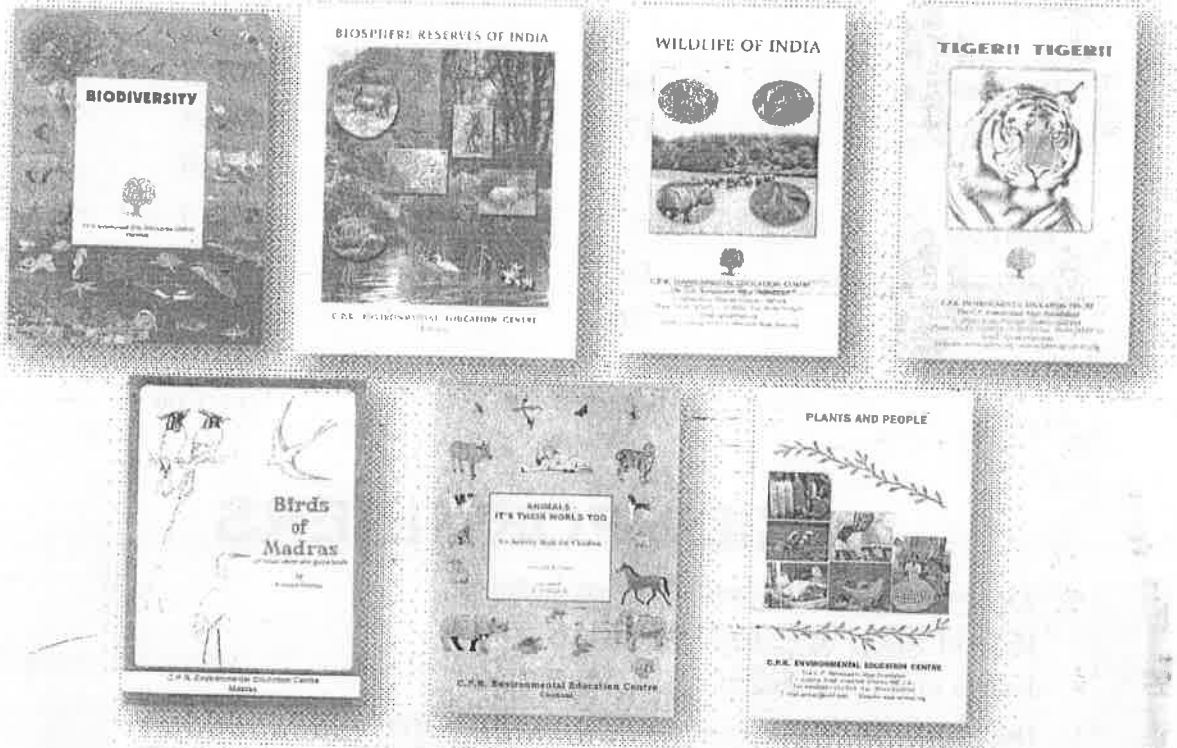
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BIODIVERSITY CONSERVATION EDUCATION

BIODIVERSITY CONSERVATION

- General Awareness
- Species approach
- Concentration on
 - Tiger
 - Birds
 - Mangroves
 - Wetlands

RESOURCE MATERIALS



TEACHERS' ORIENTATION PROGRAMME

- Global environmental problems with special reference to biodiversity conservation
- Biodiversity – Definition, types and importance
- Status of Indian biodiversity and need for biodiversity conservation
- Causes and effects of biodiversity loss
- India's wildlife and its conservation
- Role of national parks, sanctuaries and zoos in the conservation of wildlife and biodiversity
- Wildlife Act and Prevention of Cruelty to Animals (PCA) Act
- Indoor and outdoor activities pertaining to zoos
- Role of teachers in biodiversity conservation

Biodiversity Conservation Education Programmes 1994-95 to 2009-10

Group	No. of Programmes	No. of Participants
Teachers	194	7423
Students	47	2145
NGO's	12	629
Women	5	234
Animal Keepers	10	260
Others	20	1048
Total	291	11739

KIDS FOR TIGERS

- **Tigers in the biodiversity web of India**
- **Role of tigers in ecosystem protection**
- **Issues and concerns of tiger conservation**
- **the link between tiger conservation and water security**
- **Role of individuals in ensuring tiger survival**
- **Methods of learning in understanding tiger conservation**
- **Field oriented activities – mock tigers, forming food pyramid, tiger family**
- **Games and brain teasers – prey-predator game, web of life game, tiger & water game**
- **Encounters- interaction with tiger conservation managers**

MANGROVE ECOLOGY

- **Biodiversity – Definition, types**
- **Status of Biodiversity – Global and National**
- **Protected areas of India – National Parks, Sanctuaries, Biosphere Reserves, Heritage Sites**
- **Importance of mangroves in Biodiversity Conservation**
- **Efforts of the government and NGOs in regeneration of mangroves**
- **Role of teachers and students in biodiversity conservation**

ELEPHANT CONSERVATION

- Elephants the sacred animal of India
- Tropical forest systems of India
- Role of the pachyderm in forest ecosystem
- Elephants as key stone species in ensuring survival of other mammals.
- Indian culture and animal worship in India.
- Distribution and status of elephants in India.
- Role of individuals in elephant conservation

PEOPLE'S BIODIVERSITY REGISTER

- Biodiversity – Definition, types
- Objectives of the Biodiversity Act 2002, Rules 2004
- Importance and need for preparing People's Biodiversity Register (PBR)
- Methodology for preparation of People's Biodiversity Register
- Use of PBR in conserving indigenous biodiversity
- Role of stakeholders (Teachers, local body members) in biodiversity conservation
- Case studies

Biodiversity day celebration May 22, 2009



CAPACITY BUILDING on BIODIVERSITY CONSERVATION for JUDICIAL OFFICERS

- In collaboration with the British High Commission, New Delhi, Workshops for Magistrates and NGOs on biodiversity conservation laws, intellectual property rights, protection and sustainable use of traditional knowledge were organized

Thank You

Strategies for Catering Conservation Education and Developing Educational Material

Dr. T. Sundaramoorthy

**C.P.R. Environmental Education Centre,
Chennai**

Conservation Education – The Background

- Wildlife wealth of our country is remarkable
- The unique biodiversity of our country is in great danger
- Government of India has taken measures to protect the wildlife through *ex-situ* and *in-situ* conservation
 - In-situ conservation - more than 600 protected areas
 - Ex-situ conservation - more than 300 zoos
 - Zoos were established mainly for recreational purpose
 - 1854 – first private zoo in Calcutta
 - 1855 – first government zoo in Madras

**Evolution of Zoos : A centre for exhibiting animals to Centre for
Conservation Education**

Importance of Zoo

- The only place where one can be assured of seeing a living animal
- “Centre of Conservation Education”
- To create a love for wildlife and nature
- Increases knowledge of animals and their habitats

Objectives Of Zoo Education

- Biodiversity Conservation
- Information on wildlife –habitats, natural history, current status
- To create compassion towards animals

Need For Zoo Education

- Holistic discipline targeted towards various visitors
- A zoo education / Conservation education policy and a plan is required for our country

Zoo Visitors – Important Target Groups

- General public
- School teachers
- School students
- College students
- Research Scholars

Orientation Programmes

- On the role of the zoo through mediums like
 - Lectures
 - Video films
 - Sign boards
 - Interactive games
 - Quiz Programmes
 - Drawing Competitions

Interpretation Centre

- Essential in every zoo
- Should motivate visitor's next visit
- Should be interactive and informative

Interpretation Centre

- A touch screen monitor
- Information about the animals in the zoo
- Important Environmental issues
 - National
 - International
- Current national policy on biodiversity conservation
- Do's and Don'ts

Orientation Lecture

- 15 minute talk – To motivate visitors
- Well-designed PowerPoint presentation
- Information on the significant species
 - Endangered
 - Vulnerable
 - Rare
 - Threatened
 - Extinct
- More source of information
 - Publications
 - Websites

Touch Screen

- Can be reviewed any number of times
- Fast and easy access
- Map of the zoo
- Scientific information on species
- Statistics of the endangered Fauna and Flora

Activities

- Short documentary films followed by quiz programmes
 - To motivate visitors on conservation
- Audio on animal and bird calls

Mobile Exhibitions

- On biodiversity conservation
- Global environmental issues
- Diversity in themes

Zoo Museum

- Collection of Pugmarks and hoof marks of animals – made up of plaster of Paris
- Creative activity for school children
 - Students can be taught to replicate the model

Zoo Shop

- Source of wildlife information
 - Publications on wildlife
 - CD's of short documentary films
 - Star attractions for schools
 - Posters / Pamphlets
 - Souvenir

Information Boards

- To be put in strategic places
 - Status of Endangered flora and fauna –
eg. Tiger
 - Display of local ecological traditions
eg. Conservation of Nilgai

Zoo School

- Field trips
- Film shows
- Quiz programmes
- Competitions
- Visits to near by protected area
 - * Interaction with local community
- e-paper

Training Programmes

- For updation of knowledge on conservation.
 - Students
 - School teachers
 - Eco club members
- Specific workshops for
 - Biologists
 - Panchayat officials
 - Forest guards
 - Animal keepers
 - Veterinary students
 - Volunteer

Developing Educational Materials

Have Clear Objectives When You Educate

Education For Animal Welfare

EMPHASIS

- Commonality – between animals and humans
- Animal rights – ethical issues
- Animal welfare- concept and implications
- Exploitation – in food, clothing, entertainment & experimentation
- Images – consequences of negative imagery
- Legislation – for protection & welfare
- Humane movements – national & international
- Vegetarianism – cruelties of meat trade; effect on economy, development, environment & health
- Species Conservation – environmental & human survival

LEARNING OBJECTIVES

Earthkind

- Reverence for life
- Respect for animals and plants as living creatures
- Kindness to all animals
- Proper behaviour towards wildlife
- Concern for caged animals (zoos, shelters, pet shops, classrooms)
- Laws regarding animal welfare
- Role of animals in the ecology
- Responsible pet ownership

ATTITUDINAL OBJECTIVES- RESPECT FOR OTHER BEINGS

Earthkind

- Recognition
- Value
- Kindness
- Diversity
- Level of comfort
- Pet ownership

Earthkind

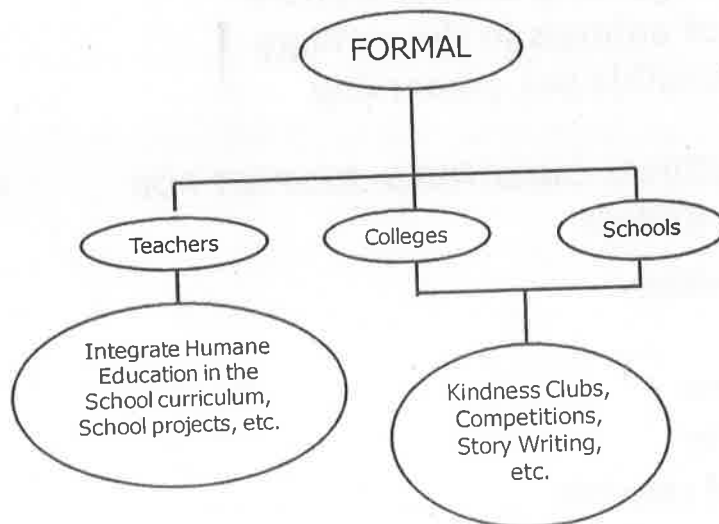
Skills Development

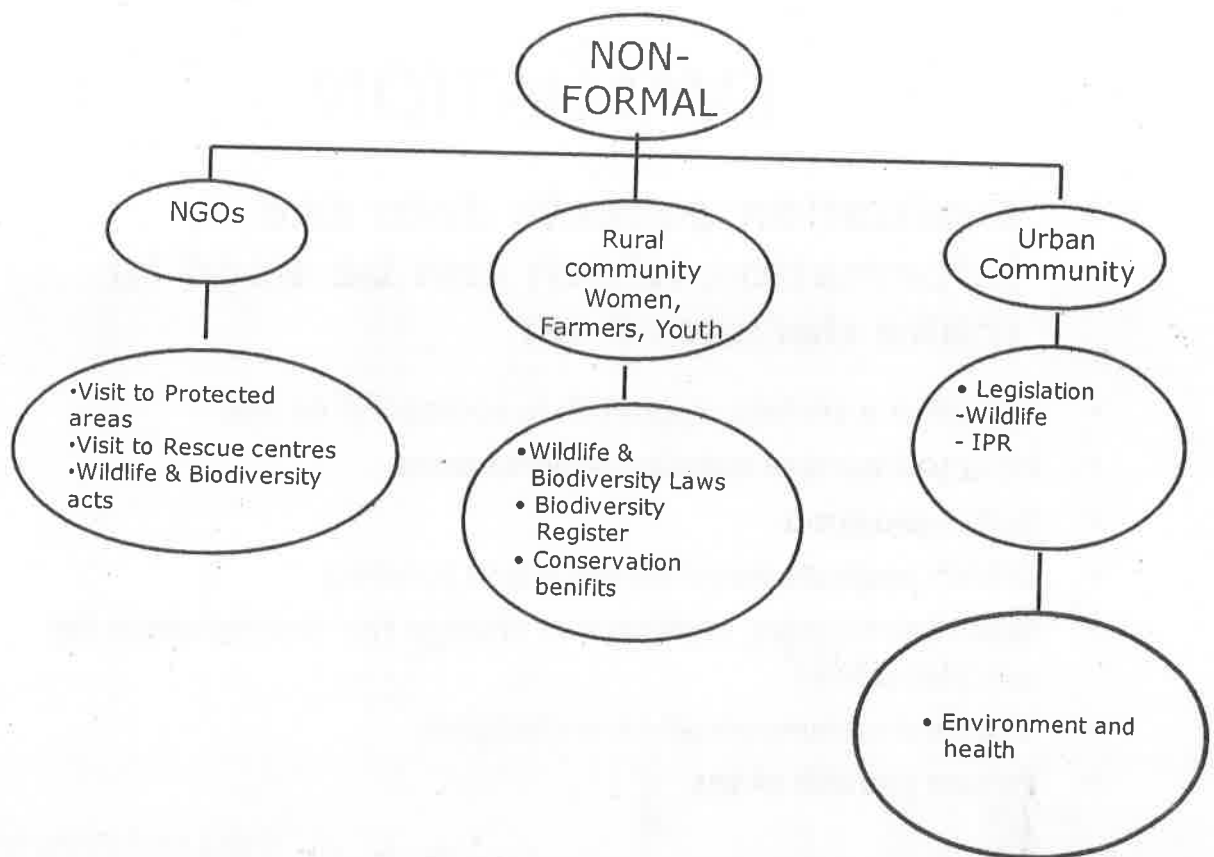
EDUCATE	ourselves on matters and issues relating to Wildlife
to improve	
AWARENESS	of Wildlife Conservation
which arouses	
CONCERN	regarding the state of Wildlife
which translates into	
COMMITMENT	to do something about Wildlife Conservation
which demands	To help Wildlife Conservation - Individually and Collectively In the Family Community School
ACTION	At the National level International level

Identify Issues

- Wildlife & Captive Wildlife
- Laws pertaining to Wildlife
- Species Conservation
- Habitat Conservation

Structure





Trainer's Training Manual

ACTIVITIES

- Games – Web of life; Who am I ?, etc.
- Bird watching – recording observations & experiences – maintaining records
- Nature walks - maintaining records
- Visit to animal shelter
- Turtle walk
- Tree walk
- Beach walk
- Heritage walk

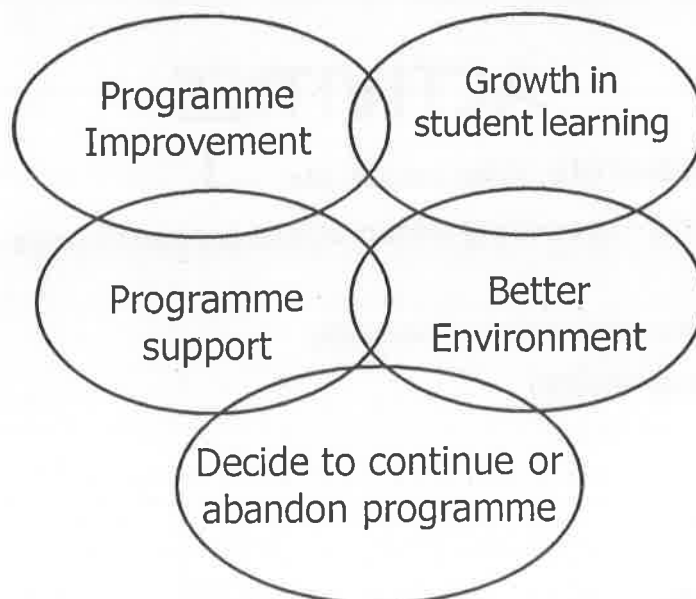
EVALUATION

Evaluation collects data and information which can be used to make decisions on

- Whether a certain approach is successful or not
- How to improve existing programmes
- Self evaluation
- Which projects need more or less funding
- Whether to copy, replicate or change the programmes for use elsewhere
- The best communication techniques
- Future growth plans

CPREEC's Trainer's Training Manual

Why is Evaluation Important?



CPREEC's Trainer's Training Manual

Short-term programme evaluation

Develop specific short-term goals like

- Production of teaching aids
- Presentation of problems to different target groups
- Development of resource materials

CPREEC's Trainer's Training Manual

Long-term programme evaluation

Prepare long-term objectives, which are evaluated by

- Content knowledge & understanding
- Success at meeting short-term programme objectives
- Success at reaching objectives
- Keeping records

Evaluation Methods

- Questionnaires
 - Interviews
 - Observation
feedback
 - Objective measures
 - Use surveys
 - Ranking systems
-
- If you plan for a year, plant a seed;
 - If you plan for ten years, plant a tree;
 - If you plan for a hundred years, teach people.

- Kuan Chung

Thank You

ZOOS AND Outreach Programmes

In-house Programmes

Celebrating Events

- ▣ Celebrating 'green' days of the year and Wildlife Week are programmes which take place in almost all zoos as a part of their in-house activities. Different types of competitions (painting, debate, quiz etc.), talks by experts, rallies, film shows etc. are some of the common activities organized on these days. These programmes mostly target school students, but can also be attractions for other age groups. Concession on entry tickets or free entry on these days is an added advantage.

Programmes for School Groups

A day in the zoo

- In most zoos of the country some structured educational programmes are offered for school groups. A request-based guided tour of the zoo, screening of movies on wildlife, slide shows, talks and lectures by experts are some programmes offered by zoos for such structured visits.

Nature trails

- Zoos with good biodiversity in and around the site are developing nature trails inside the zoo. This also includes activities like bird-watching. This is a good effort to give a holistic view on the environment and various linkages within nature.
- Some zoos also offer trekking in nearby areas at fixed times of the year.
- Specific animal weeks (Tiger week, bear week)

Programmes for Youth

- Though youth groups are part of all common programmes of the zoo such as wildlife week, request-based guided tours etc. but specific programmes structured for youth groups are not commonly offered by zoos.
- Forming **Youth Club**

Volunteer programmes

- Many zoos have volunteer groups who provide their services during peak visitation seasons. Apart from few zoos where these volunteers are trained to carry out educational programmes, guided tours, enclosure cleaning etc, on a regular basis, in most zoos volunteers are involved only during peak visitation season in carrying out activities during 'green' days, managing huge crowds and keeping a check on security and vandalism.

Programmes for General Public

- Wildlife film shows
- Few zoos have auditoriums or rooms where wildlife films are
- screened for general public.
- Naming ceremony of animals
- Interpretation
- Adoption

Adopt an Animal

- This programme is not only a means to raise funds for the zoo but more and more people are positive about this idea and are showing their interests in adopting animals. This is a direct method to involve and sensitize visitors towards nature and wildlife.

Creating awareness about issues

- The Nandankanan Zoological Park, Orissa, celebrated “Elephant day” on October 7th, 2007. The objective of celebration of elephant day was to draw the attention of the visitors and to generate awareness about the role of elephants in the forest ecosystem, and to generate awareness about their conservation need.

Special Programmes/Activities

Zoo School Programmes

- Arignar Anna Zoological Park (AAZP), Chennai has an innovative zoo education programme. A customized educational module has been prepared covering the school syllabus.

Talks and Lectures

Participants are given talks and lectures on various themes related to wildlife and environment

- ▣ Given below are some broad themes on which talks are given:
 - ▣ Environment and Wildlife
 - ▣ Biodiversity
 - ▣ Wildlife Conservation
 - ▣ Role of Zoos in Conservation Education
 - ▣ Some aspects of Zoo Management
 - ▣ Do's and Dont's in the Zoo

SWOT Analysis

- Every zoo should do a SWOT (strength; weakness, opportunities, threat) analysis of its own zoo, to develop, conduct and evaluate its educational programmes and activities on a regular basis.

Linkages

Linkages

- ▣ Media, corporates, policy makers.
- ▣ NGOs, individuals, volunteers, donor agencies, government institutions.
- ▣ International zoos, government departments (like finance and other related departments).
- ▣ Tour operators, nature clubs, other zoos.
- ▣ Like - minded institutional collaborations with natural history museums, botanical gardens etc.