Most of us remember a trip to the zoo with special fondness. Whether it is a school picnic trip or a family outing, zoos evoke fond memories of fun and frolic, amazing antics of the captive animals, and the excitement of learning about their behaviour from signboards. People appreciate the opportunity to see animals they would never otherwise get a chance to see. This may be the closest to wildlife that many urban people may get, and so zoos provide a unique opportunity to create an interest and love for animals.

Over 620 million people visit zoos across the world every year. That is more than one tenth of the human race. More than 50 per cent of world zoo visitation takes place in Asia. In India alone, over 5,00,00,000 (5 crore) people visit zoos annually.

The learning and the experience gained while interacting with live animals—seeing, hearing or touching them—cannot be replaced by other modes of education. Live animals create curiosity and interest. Zoos, therefore, provide an opportunity to open up a whole new world, and this could be used in sensitising visitors regarding the value and need for conservation of wildlife.

Zoos are living institutions, living classrooms, living landscapes. Today zoos are being treated as centres of ex situ conservation too. Zoo education is a holistic discipline targeted at zoo visitors, staff and the wider community aiming to promote an

It is of vital importance to make people realise the responsibility of preserving nature, and maintaining and restoring natural relations between man and the living world. In this context, zoos or zoological gardens can play a big role.

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Millions of visitors throng to zoos daily (below)
understanding of, and concern and respect for biodiversity, animals and the natural world, and encourage action for a sustainable future.

The World Zoo Conservation Strategy published in 1993 concluded that, given a professional approach, a knowledge of the zoo public and a clear cut education plan, zoo education programmes can be successful in increasing the public’s awareness of the irreplaceable value of nature. Education is therefore an essential conservation task of zoos.

However, despite the fact that zoos provide a good opportunity for teaching and learning about wildlife, often zoo visits are considered just as picnics and are undertaken without any specific purpose in mind. It is important to not treat the zoo visit as an isolated activity. Without taking away the fun, with a little creativity and innovativeness, teachers can make the outcome of a zoo visit memorable and long lasting.

**Why Zoos?**

Now, what are some of the significantly important functions that zoos perform? Zoos were initially started for the entertainment of people. Gradually, over the years, they have come to play an important role in conservation, education, research and now conservation breeding. Zoos are institutions that can uniquely integrate the three major tasks of conservation, research and education.

Zoos are suitable places for animals whose numbers have reduced drastically in the wild. A zoo is an ideal place to breed such endangered animals. A zoo acts as a reservoir of rare animals, which can be bred in captivity. This also provides stocks for other zoos and keeps the animals safe for possible rehabilitation (reintroduction) in the wild. Such captive breeding has to be done in addition to preserving wild habitats. Zoos offer individual animals protection from poachers and other problems. In the wild, animals face threats such as hunting, poaching, man-animal conflict, loss of habitat due to pollution of air, water, etc. Inside zoos, the animals are safe from these threats.

Zoos also offer the opportunity for scientific study of animals. They provide a living laboratory for basic scientific research on the behaviour and biology of animals, which would be extremely difficult to undertake in the wild. For a field biologist, it is very difficult to study behaviour, feeding habits, etc., of animals in the wild. It is also difficult to transport and set up the equipment needed for scientific investigation in the wild. It is also not fair to disturb the animals for investigations. Many such investigations are mostly conducted in zoos. The little data collected in the wild is often compared with the data obtained from zoos. Many university students of zoology and veterinary science
also use zoos as their “laboratory” or a place where they can carry out practical research or field studies.

**Zoos For Education**

Finally, zoos are the only place for the general public to encounter wildlife in “safe” situations and at reasonable cost. Zoos maintain a collection of living animals from different parts of the country, sometimes from other parts of the world as well. In a single day, one can see animals of different kinds, and possibly get an idea about their habitats.

Zoos have tremendous potential for educating people of different ages and backgrounds about wildlife and conservation. They are excellent institutions to increase public awareness about the values of nature. Considering the number of visitors to zoos, the scope of zoo education becomes large and positive.

Living animals that attract visitors form the basis for zoo education. Therefore, the most important education zoos provide is the love and fascination for animals. This can serve as a starting point to stimulate the visitors to become aware of the wonders of nature, relationships and the balance of the living world.

The National Zoo Policy, 1998 in India has also clearly listed the role and components of zoo education, to be followed by individual zoos across the country:

"Education, Outreach Activity and Extension Activities"

- 3.8.1 Each zoo should have a well-drawn-up plan for educating the visitors as well as others in the community. Zoos shall keep a close liaison with other ex-situ facilities in this regard.
- 3.8.2 The central theme of the zoo education programme being the linkage between the survival of various species and protection of their natural habitat, enclosures which allow the animals to display natural behaviour are crucial to zoo education. Zoo shall, therefore, display animals in such enclosures only where the animals do not suffer physiological and psychological restraint.
- 3.8.3 Attractive and effective signage methods and interactive displays to explain activities of various species to visitors, published education material and audio-visual devices are proven methods for driving home the conservation’s message. A formal education programme should also be pursued for strengthening the education message.
- 3.8.4 Besides signage, the zoos shall also use guided tours, talks by knowledgeable persons and audio-visual shows for effectively communicating the message for conservation to the visitors.
- 3.8.5 The help of universities, colleges and non-governmental organisation shall be taken to educate the students about the benefits of supporting nature conservation programmes.
- 3.9.1 To provide the urban population with a window to nature and to serve as green lungs for the polluting environment, zoos shall extend their expertise."

A large number of school children visit zoos each year, and therefore zoos
Zoos are special places for special animals. So, it is very important to know what one should not do in a zoo. Visitors may disturb animals knowingly or unknowingly. There are often signboards in zoos that tell people the things that should not be done. These instructions must be taken seriously.

The National Zoological Park at New Delhi has been declared a ‘no polybag’ zone. Other zoos namely Arignar Anna Zoological Park, Vandalur, Chennai; Sri Chamarajendra Zoological Gardens, Mysore; Nehru Zoological Park, Hyderabad; Padmaja Naidu Himalayan Zoological Park, Darjeeling have also declared themselves as polybag free zones. No visitor can bring a plastic bag with food material into the zoo. This has been done to protect the animals, as plastic bags, empty, as well as with leftover snacks, which are dumped on the lawns or inside animal enclosures, may be swallowed by the animals. Polythene bags are non-biodegradable and cannot be digested. They can clog the digestive tract, and suffocate the animals to death.

There are two very important things that visitors to zoos must remember. First, no teasing. No person should tease, molest, injure or feed any animal or cause disturbance to the animals by noise or otherwise, or litter the grounds in a zoo. Shouting, hissing, making faces, throwing things, running in front of the cage, waving sticks—such activities disturb and irritate animals. Animals will be a lot happier if the surroundings are quiet. Sounds that animals make can also be heard if silence is maintained.

Animals are very shy and sensitive and have their own routine. Some stay awake at night and sleep most of the day, and if visitors disturb the animals just because they want to see the animals moving around, it disturbs their routine. Some animals need privacy and may be hiding. If the animal is hiding, one can come back later and check. People often expect animals to be active all the time, as though the animal wanted to meet and react to them at that precise moment!

Teasing is a major cause of suffering for zoo animals. Teasing causes mental stress. Even seemingly “harmless” teasing such as snapping fingers at the animals, calling, hissing, or running in front of the cage, may be irritating to the animals. A visitor who is caught teasing or feeding animals in a zoo can be punished with a fine or even jailed [The Wildlife (Protection) Amendment Act, 1991, No. 44 of 1991 Section 38.J Prohibition of teasing, etc. in a zoo.]

Second, do not feed the animals. Each animal needs a different type of food. The food given at the zoo is special and similar to what the animals feed on in the wild. If they are fed with biscuits, wafers, etc. by the visitors, animals lose their appetite for the type of food they are meant to eat. Animals may also get infected with human diseases when visitors give them food. This can make animals sick and even lead to deaths.

Many people think that they are helping the animals by feeding them. This is where education to visitors to zoos becomes very essential. Instead of feeding animals, it would be a good idea to wait until their keepers feed them, and have fun watching.

Other behaviours of visitors like spitting and smoking can prove dangerous to animals. Bringing pets to zoos is also not allowed—the fear is that the zoo animal might catch some infection. All these acts can adversely affect the health of the zoo animals.
have a tremendous potential to generate interest about wildlife among this important and impressionable group. This is a perfect place to teach concepts, change attitudes, give information, and create a love for the natural world. Anything from art and zoology to geography can be taught in zoos. Zoos offer a unique combination of resources that are not available in the classroom. The educational outcomes can be memorable and long lasting.

Interpretation is defined as an educational activity that aims to reveal meaning and relationship through the use of original objects, by first-hand experience, and by illustrative media, rather than simply communicating factual information. In a zoo, such programmes help visitors to understand the uniqueness of each animal and its relationship to its surroundings. Interpretation can be done through a variety of means and media—exhibits, signages, publications like booklets and brochures, and through guided tours.

One way of educating people is through the signboards outside each enclosure, which give information about the animals. Many zoos in the world also organize live animal and bird shows and demonstrations under the supervision of trained personnel.

The zoo also organises workshops to inform visitors about the importance of trees and forests and the need to save them.
In initiatives taken by Zoos

Zoo education is far more than information, awareness and inspiration; it is a call to action. But what can zoos really do? What examples can be highlighted to achieve the desired sustainable future? Zoo education with its egalitarian appeal can make a serious contribution to a sustainable future by providing lifestyle information and examples for the visitors to make informed choices.

Everything a zoo does, does not do, communicates or does not communicate, contributes to the educational message, or rather contributes to the effect of zoo’s education for sustainability. This is true of the exhibited animal collection, the design of enclosures, and the tone of the message emphasis. Even the attitude of the employee at the entrance of the zoo influences the effectiveness of zoo education.

However, education for sustainability is much more than adding an attractive sign, designing a nice enclosure, or choosing an ‘educational’ animal; in fact, the whole zoo contributes to the educational message. If zoos want to get the message across, they have to ensure that every facet of the zoo supports this message. The message is so much stronger if zoos actually practice what they preach and show how the action of individuals and organizations can and does make a difference. Zoos practicing environmental sustainability can influence attitudes and change behaviour.

Zoos around the country have been taking several initiatives to use the zoos as a medium of education.

For instance, the Arignar Anna Zoological Park, Vandalur, Chennai has initiated the “Teachers for Tigers (TFT)” programme in collaboration with the Zoo Outreach Organization (ZOO) to educate zoo biologists, teachers, NGOs and educators about different educational methods and activities, using the tiger as an example. The importance of tigers and their conservation, the importance of suitable habitats and the need to preserve forests to protect tigers is highlighted. The programme also aims to train and develop creativity in teachers by making them prepare resource materials and mini dramas. A refresher course is also offered some time after the first workshop.

The Sri Chamarajendra Zoological Gardens at Mysore also initiated a zoo education programme called “Sustainable Future in the 21st century” for its visitors. The Zoo has also pioneered the “Animal Adoption Programme” where any individual, trust, society, school, bank or organization can adopt a zoo animal. By adopting the animals he/she shall be paying one time amount incurred on the feed and upkeep of that particular animal or animals for a year or longer. In turn, a plaque containing his/her name is placed next to the animal exhibit. A citation and Income Tax Exemption certificate for the amount paid is also given. Such organizations are entitled to special visits to the zoo. Many zoos have taken up this programme now.

A visit to the zoo can be fun. But at the same time it needs to be realised that zoos provide a large captive audience for spreading awareness about issues related to conservation and wildlife.
Over 620 million people visit zoos across the world every year. That is more than one tenth of the human race.

Similarly, the Madras Crocodile Bank Trust in Mamballapuram is involved in research and conservation, and is also a centre to create public awareness regarding the most misunderstood group of animals – the reptiles. The Trust encourages all visitors to inquire and learn about different aspects related to reptiles. General reptile talks are held at scheduled times on weekends. Field trips to the Croc Bank are accompanied by educational programmes. The fun-based curriculum takes advantage of the Croc Bank’s denizens and natural settings to engage students in a unique, exciting and supervised manner.

Special programmes for University students are designed based on fields of specialisation and interest ranging from animal sciences, conservation to photography and art. More recently, the MCBT included the Agumbe Rainforest Research Station and Andaman and Nicobar Environmental Team/Centre for Island Ecology as components of this programme, allowing students the opportunity to experience a more diverse biological curriculum, whilst giving them the chance to get a taste of cutting-edge environmental issues in the field.

Some of their long-standing and popular programmes include:

- **Young Explorers** for children between 5-7 years of age.
- **Young Discoverers** for children between the ages of 8-11 years.
- **Amateur Naturalist** programme is for teenagers between the ages of 12-16. Topics include classifications, field research skills and conservation.
- **Behind the scenes** is a programme designed to provide a glimpse into what it takes to make Croc Bank work and the skills needed for reptile care and management.
- **Junior Zoo Keeper** for a day wherein the Croc Bank provides an opportunity to be a zoo keeper for a day and to do a zoo keeper’s job under the keeper’s supervision.

This provides an eye opening experience of being a caretaker for over 2000 reptiles. To know more about the crocodile bank, its inhabitants better with a trained Croc Bank guide.

**Environment Education (EE) outreach programmes** for urban and rural areas as part of which mobile exhibitions and awareness programmes for schools and fishing villages along the East Coast Road are conducted. MCBT has also set up a mobile ‘Puppet theatre’.

The Rajiv Gandhi Zoological Park & Wildlife Research Centre, Pune has initiated an SMS Alert System for the public to file complaints about injured birds or animals in trouble, or illegal tree felling. The zoo also organises workshops to disseminate information on the importance of trees and forests and the need to save them. During Rakshabandhan, ‘Rakshis’ are made using seeds. Similarly, informative sessions are conducted on myths and facts about snakes. For instance, during Nagpanchami festival snake charmers take snakes from door to door and feed them the milk offered by people. The milk may enter into the lungs of the snake leading to its death.

Apart from guided tours and bird walks, the Delhi Zoo also organises several special programmes for increasing awareness among the visitors. Recently, on 1 September 2012, it organised the International Vulture Awareness Day to which students from various schools were invited. The participants were informed about the significance of vultures and how to save vultures. Similarly, the World Tourism Day was celebrated on 27 September 2012 to raise awareness about the role of Ecotourism in conservation of wildlife. By implementing eco-friendly or environment friendly tourism both within and outside the protected areas, one can conserve biodiversity, support sustainable development, have limited environmental impact based activities, and generate employment among local people. For the first time in India the concept of Ecotourism for the livelihoods of local communities is being proposed in the 12th Five Year Plan (2012-2017).

A visit to the zoo can be fun. But at the same time it needs to be realised that zoos provide a large captive audience for spreading awareness about issues related to conservation and wildlife.

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**Central Zoo Authority**

The Government of India took a policy decision in 1988 that the main objective of the management of zoos in India would be conservation. Captive breeding of endangered species and creation of empathy towards wildlife would be the main goals to be achieved. Recreation would be encouraged only to the extent that it is consistent with the conservation objective.

Consequently, the Central Zoo Authority (CZA) was set up in 1992 as a statutory body under the Ministry of Environment and Forests, Government of India. No zoo can operate in India without recognition by this Authority and prior orders from the Supreme Court of India.

The main functions of the CZA are:

1. Recognition of zoos and enforcing of the minimum standards and norms of management;
2. Providing financial assistance to zoos in planned development;
3. Coordinating captive breeding programmes for endangered species on scientific lines and organizing frequent exchanges of animals between zoos;
4. Training and education in zoo management;
5. Providing technology for modern aspects of zoo management through international cooperation;
6. Establishing linkages between ex-situ and in-situ conservation.

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