

## **Report: Fourth Annual Conference of the S. Asian Zoo Association for Regional Cooperation held in National Zoological Gardens, Dehiwala, Sri Lanka, 1-5 December 2003**

### **Background**

The South Asian Zoo Association for Regional Cooperation, S.A.Z.A.R.C., is in its fifth year since founding. In 2000, Zoo Outreach Organisation / CBSG, South Asia organised a meeting of South Asian zoo directors at Central Zoo, Nepal. The meeting was facilitated by the late Dr. U. S. Seal, Chairman, IUCN SSC Conservation Breeding Specialist Group and Sally Walker, Founder/Director (Z.O.O.) and Convenor, CBSG, South Asia. At this meeting the directors agreed to form an association which they called the "South Asian Zoo Association for Regional Cooperation" or S.A.Z.A.R.C. (sah zark !), a name intended to reflect its primary purpose of cooperation within the region. Since 2000 SAZARC members have met every year with participation from zoo personnel from five countries of South Asia. The association has met in three South Asian countries, Nepal, Bangladesh and Sri Lanka. In 2001 SAZARC met in Perak, Malaysia in association with the 10th Anniversary of the South East Asian Zoo Association. SAZARC will, if all goes well, meet for their fifth consecutive year's training and deliberations in Pakistan in 2004 and in India in 2005. SAZARC administrative office is hosted by the Zoo Outreach Organisation, Coimbatore, India and administered by Z.O.O.'s Founder and Patron/Hon. Director of SAZARC.

South Asia contains more than 300 zoos of which about 75 have a respectable area, staff, infrastructure, budget and intentions. Most of these 75 have not reached international standard but have much potential. The remainder fall far below a minimum standard of management. In today's zoo world, global, regional and national zoo associations work together both inter and intra regionally to help one another improve by sharing expertise and knowledge. Until four years ago, India, Pakistan, Nepal, Sri Lanka and Bangladesh were more or less isolated from one another and from the global zoo community, but from 2000 zoo personnel from these countries have met and discussed their issues and problems of zoo management. A sense of community and cooperation has evolved over this time.

Today zoological gardens and parks are assuming greater importance, particularly in the conservation arena, especially field conservation and conservation education. At the international level, policy and projects for zoos are initiated from the World Association of Zoos and Aquariums (WAZA) and a multiplicity of regional and national zoo associations. Until four years ago South Asia was the only region that was not represented by an association.

The 4th Annual Conference of SAZARC was unique in that the host, the National Zoological Gardens, Sri Lanka, raised funds for local costs which made it possible for SAZARC Administrative Office to concentrate its fundraising for participants from outside the host country. A record number of participants could attend the meeting including three Director Generals in charge of zoos who are responsible for policy and decision-making.

This issue of ZP is a summary Report of the SAZARC conference as well as other important workshops held in connection with it.

### **SAZARC Report – Day by Day**



**SAZARC participants at the Inaugural Function.  
Photo by Sanjay Molur.**

### **Day 1– Monday, December 1, 2003**

The 4th Annual Conference of the South Asian Zoo Association for Regional Cooperation (SAZARC) was conducted in the National Zoological Gardens, Dehiwala, Sri Lanka, 1-5 December 2003. An elegant, formal inaugural function was conducted with Tosapala Hewage, Secretary to the Ministry of Environment and Natural Resources, representing the Minister for Environment, Brig. H.A.N.T. Perera, Director, National Zoological Gardens, Sri Lanka and President of SAZARC; Dr. Ellen Dierenfeld, internationally renowned expert and Zoo Nutritionist, St. Louis Zoo, Missouri, USA. (Resource Person); Sri Adit Pal, nationally renowned landscape architect and zoo exhibit designer (Resource Person); and Sally Walker, Founder, Zoo Outreach Organisation and Patron/Director (Hon.), SAZARC on the dias.



**Secretary ME & NR, Sri Lanka lighting the traditional lamp  
Photo by Sanjay Molur.**

After the traditional lighting of the lamp, an eloquent Inaugural Address was delivered by Brig. H.A.N.T. Perera President of SAZARC/Director, Department of Wildlife and Zoological Gardens, Sri Lanka. His address welcomed and thanked the gathering and wished participants a happy stay. Mr. Tosapala Hewage, Secretary delivered greetings and congratulations of the Minister for Environment who could not attend. Dr. Ellen Dierenfeld and Mr. Adit Pal, Resource Persons were introduced and stated their pleasure at being part of the SAZARC meeting. Sally Walker gave the keynote address, which reviewed the history of SAZARC and highlighted the need for cooperation between zoos of the region. She stressed the difficulty of running a zoo (which is much like a scientific laboratory which allows visitors) and called on politicians, the public and press to try and understand the problems of the zoo manager and the crucial importance of his work in wild animal conservation, research and education. Full remarks are included in Appendix I of the CD Report.

Brig. Perera then presented very attractive plaques to all the local sponsors of the Conference which included Sri Lanka Telecom, Ringling Brothers, Glaxo Pharmaceutical Co., Hemas - Veterinary Division, Hemas- Pharm Asia, Kolon Engineers, Swift Computers, Hediki, Hayleys Pharmaceuticals, Macson Mesh Ltd, Bank of Ceylon and Bours and Co.

Sally Walker thanked the foreign sponsors who supported air fare and accommodation of all participants, Schombrun Zoo, Vienna; Lord Robin Russell, Woburn Safari; World Association of Zoos and Aquaria, W.A.Z.A.; Universities Federation for Animal Welfare (UFAW); European Association of Zoos and Aquaria, EAZA; Association of British Wild Animal Keepers ABWAK; Sea World, Orlando, Florida; Appenheul Primate Park, Netherlands; Columbus Zoo Conservation Fund, Ohio; Thrigby Hall Wildlife Park, U.K.; Alertis, Netherlands; St. Louis Zoo, Missouri; Chester Zoo, U.K.; Koln Zoo, Germany; Hawk Conservancy Trust, and Skan Sen – Akvariet, Stockholm, Sweden, and Friends of Twycross Zoo.

Following the Inaugural, an elegant tea was served while participants and guests met and spoke with one another before participants departed for the National Zoological Gardens to begin their conference.

The 4th Annual Conference of SAZARC took place in the Auditorium of the National Zoological Gardens in Dehiwala. Brig. Perera welcomed participants and turned the meeting over to Sally Walker who asked participants to record their expectations of the SAZARC conference as well as their intended contribution to the gathering. They all introduced them-selves, summarising their expectations and contribution which are included in the CD Report.

The first session of training took place later in the afternoon and consisted of an introduction to Zoo Nutrition by Ellen Dierenfeld. Ellen introduced the specific Nutrition topics to be presented which were: Basic Nutrients, including calculation of Energetic needs as an initial step, Carnivore diets, Herbivore diets, Avian nutrition, Reptile nutrition, feeding presentation and finally elephant nutrition. She also suggested that topics with direct application to feeding management issues in the region should be discussed,



**Ellen Dierenfeld's introduction to nutrition on the first day of SAZARC. Photo by Sanjay Molur.**

and the need for finding a mechanism for providing further nutritional resources. Priority Projects would be identified by SAZARC Working Groups, she said.

Ellen described her "Vision for the future network of zoo nutrition" which would include nutritional services, diet evaluation and recommendations, a network of individuals involved in zoo nutrition (some of them are Nutrition Advisory Group and Zoo Cog USA, CBSG, SEAZA, WAZA, PAAZAB, UFAW and SAZARC etc.). The networks arrange training and workshops, data dissemination, analytical expertise, zoo field project interface. Diet evaluation and nutritional assessment would also be part of the future projects with multi departmental disciplinary & institutional efforts required to do this very complex job. It will include native foodstuff analysis, physiological status parameters, endocrinological impacts, reproduction, stress, environmental effects. She gave some examples of rhinos and Tragopan pheasants. The national networks will develop a



**Adit's first presentation - on animal / visitor / management friendly design. Photo by M.M. Qazi.**

diet manual with standardized protocols, food safety, strong handling. A Field method workshop in nutritional sampling and analysis for each region is envisioned. There is also a Zootrition Software tool which is under continuous revision. Her full report follows in ZP and is in Appendix III of the CD.

Adit Pal gave a beautifully illustrated presentation entitled Zoo Friendly Architecture Animal / Visitor / Management Friendly Designs in which he explained the principles of zoo and animal friendly designing. An animal friendly design is one that supports good animal health, that keeps the animal safe from harm, and supports conservation breeding. A visitor-friendly design is one that fulfills all functional visitor requirements, that keeps visitors safe from harm and that supports visitor interpretation for conservation. A management friendly design is one that is animal friendly and visitor friendly, that supports easy servicing and maintenance and that is sturdy and long-lived. Good design matters, he said : it makes life easier for the zoo administrator by improving health and safety standards and supporting easier management. His write up of this presentation is published in this issue. All his presentations over the week are given in the CD report both in text and in Power Point.

In the evening there was a gala cultural event of traditional music and dancing at the Sri Lanka night Jana Kala Kendra, Sri Jayawardana Pura,

## Day 2 – Tuesday, December 2, 2003

The second day of the SAZARC conference began with nutrition training. Ellen gave an excellent presentation, after which participants identified topics of interest and areas needing further study, such as Nursing Babies/Hand-rearing Formulas, Elephant Calves - Pinnewala, Manual of Diets fed in South Asian Zoos/Rescue Centers, Enrichment Foods, Diet Standardization for Animal Exchange, South Asian Database, Scientific Basis of Diets, Diet Record Uniformity, Live Invertebrates as Food (Whole Prey)

They also prioritised animals which need special attention and then formed working groups according to their specially prioritized group of animals. The species selected were tiger, leopard, rusty-spotted cat, python, pelican, elephant, spotted deer, rabbit, grey langur, rhesus macaque, peafowl, owl, hornbill, and gharial.

Adit Pal gave a presentation on Natural Habitat Exhibit Design in which he discussed the subtle differences between natural and naturalistic designs. Naturalistic exhibits include artificial rockwork, large moats and neat hedges with a primary message "wild animals live at the zoo". Natural habitat design goes much farther and insures that a) animals display normal behavioural patterns including play and natural feeding habits, b) animals have minimal hoof disorders, better health;

generally there is less animal strain - easier keeper management and c) that animals have enhanced social relationships - natural mating / reproduction and enhanced visitor perception of animal - habitat relationships. All these elements underline the importance of the conservation of natural habitats.

In the afternoon we took up some chapters of the World Zoo and Aquarium Conservation Strategy. Participants split into four groups representing 4 chapters on Tuesday and 3 on Friday. Their comments are summarized in Appendix V of the CD. Participants enjoyed this exercise very much – it is regretted that there was not more time for it.

### Participants presentations :

It is a tradition in SAZARC that each participant have an opportunity to prepare and present a 10 minute presentation relating to their work. They could give an update of their zoo, or a scientific achievement or a special activity. In this way participants can see the progress of their colleagues from year to year. The presentations are normally very well constructed on Power Point or other multi-media. Every presentation is included in the CD in Appendix VI. After tea on Tuesday we began participants presentations which took the whole afternoon. These were given by :

- Ganesh Dubey, "The Journey" for Zoo Education for Maitri Baag Zoo, Bhilai
- B. S. Bonal, "Introduction to National Zoological Park"
- Jayanathi Alahakoon, "Present diet of the zoo animals at National Zoo, Sri Lanka"
- Brij Kishore Gupta, "Design and Management of Rescue Centre: a Case History of Agra Bear Rescue Facility"
- R. K. Sahu, "Exhibit Design – New concept in Ahmedabad Zoo"
- M. Mansoor Qazi, "Role of Karachi Zoo and Safari Park in Conservation of Wild animals"
- A. K. Saha, "Thiamin Deficiency : A Case Study"

Participants visited Majestic City in the evening.



Participants discussing the Draft World Zoo and Aquarium Conservation Strategy. Photo by Sanjay Molur



### Day 3 Wednesday, December, 2003

Ellen's presentation related to the working groups of the previous day. After the diet of the chosen group had been evaluated, each group selected the zoo diet of any animal and Ellen analysed it in the Zootrition computer programme and conducted a discussion.

They learned to calculate the BMR of an adult and young and practiced drawing inferences such as the similarity of BMR of adult and young. Participants appreciated the amount and quality of information and said that it would help them in their planning of diets for the animals at their zoo.



**Participants calculating the BMR for nutrition of different animals.**  
Photo by M.M. Qazi.

Adit's Pal gave a presentation on Exhibit Barrier Design which is much required in South Asia and was much appreciated by participants. Designing effective, yet hidden, barriers for an exhibit is one of the ultimate aims of natural habitat design. He discusses animal types and their barrier needs. Terrestrial species which jump and climb need a front barrier and a rear barrier. Animals such as Tiger, Asiatic Lion require U-shaped dry or wet moats, glass viewing structures at special viewing areas, high chain-link fences OR high rock walls.

He discussed traditional barrier types with their advantages and disadvantages. For example, moats are good for viewing with their U-shaped (vertical sides), but there is no sense of "contact" with animals. Moats discourage transmission of infectious disease from visitors, however improper drainage of wet moats can lead to pro-liferation of parasitic load. Other disadvantages are that their structural design makes these very expensive to build and safety for animal, which can fall into moat areas hurting themselves

New barrier types were also discussed with their pros and cons. For example laminated tempered glass allows close visual connection between visitors and animals, provides privacy to animals by insulating from noise and requires much smaller area than moats, all distinct advantages. Disadvantages are reflection of light off glass surfaces reduces visibility, frequent cleaning required and expense of construction.

Adit illustrated his talk with numerous slides of different barrier types and their pros and cons.



**Bangladesh participants pose with S. Walker and a copy of their Draft Zoo Act. This document was initiated at the 2002 SAZARC meeting at Dhaka.**

The afternoon was devoted to the World Zoo Conservation Strategy chapters which were reviewed by working groups who handed in Reports. Also the Bangladesh contingent announced that they had formulated their National Zoo Act and had a draft copy with them. As one of the SAZARC objectives is to encourage zoo legislation in all the countries, this was a high point of the conference.

### Visit of Minister of Environment

The day held more "high points". Participants presentations and the start of SAZARC business meeting were postponed due to a surprise and very welcome visit by the Sri Lankan Minister for Environment. The Minister's visit was much appreciated by participants. Brig. Perera introduced the Minister who is one of the politicians in Sri Lanka whose interests determined his post. This is a facility of politics in Sri Lanka, that some Ministerial posts must be filled by persons whose vocation or avocation matches the subject. Minister was very pleased with the



**Bonai, Secretary of the Indian Zoo Directors' Association, speaks about the SAZARC conference for the benefit of the Minister for Environment. Photo by Sanjay Molur.**



**Minister for Environment holding a discussion about privatisation of zoos with D.G.'s of Pakistan and Bangladesh**  
Photo by Sanjay Molur.

regional meeting of SAZARC and spoke very admiringly of the zoo and its staff and of the SAZARC participants. There were three Director Generals of zoo departments from Bangladesh and Pakistan, one retired and two active. They were all asked to say a few words about what the conference meant to them thus far. All spoke very well, indicating how much they had learned and the insights they had gained which would help them improve their ability to work productively to aid their zoos to improve. The Director, National Zoo, India and Secretary, Indian Zoo Directors' Association also spoke as well as some other participants. After this brief semi-formal discussion, all adjourned for tea where the Minister sat with the D.G.'s, Director, Zoo and Director, SAZARC discussing various zoo and wildlife issues, including privatization of zoos before leaving.

The rest of the afternoon was spent in a detailed tour of the beautiful National Zoological Gardens, which all participants appreciated very much.

In the evening participants and hosts joined for a Poolside Dinner at the hotel with traditional musicians and a dancing troop in the early part of the evening followed by dinner and contemporary dancing after, in which everyone joined !



**Group photographs require patience, tact, cunning and sometimes a touch of schoolteacher discipline.**  
Photo by M.M. Qazi.



**Participants tour the beautiful Colombo Zoo, now called National Zoological Gardens and are impressed much by the penguins.** Photo by Sanjay Molur.



**Participants can't contain their enthusiasm for the traditional dancers at the poolside party.** Photo by Qazi.



**Participants replace traditional dancers at the poolside party and end the evening with a SAZARC cheer !** Photo by Qazi.



## Day 4, Thursday, December 4, 2003

Ellen's presentation included a discussion with general comments from group which touched on regional nutrition issues such as the use of Tilapia as fresh water fish, Buddhists will serve no beef on full moon days; Halal meat (Muslims) inspected prior to slaughter, Color-feeding for flamingos – beet, carrot, Artemia, etc. Nutritional Resources in Region for Nutrient Composition Information were discussed and included many Universities (biochem, nutrition depts), agricultural research institutes, Central Foods Technology Research institute (CFTRI), VRI Vet Research Inst., IVRI, PCSIR, BSTI, National Institute of Nutrition, Institute Food & Nutrition, ICAR, WII, Department of Food Technology, Department of Livestock, Department of Food & Drug, Nutrition Lab in Zoo, etc.

Also discussed was the regional types of whole prey which are fed to carnivorous animals in different countries: Snakes, rabbits, sparrows, herons, frogs, chicks, guinea pigs, pigeons, crickets, lizards, live fish,

presentation with much discussion. While at the course, Adit also designed a leopard enclosure for the National Zoo free of charge as a gift in honor of their hosting of the SAZARC meeting.

### Participants presentations :

Uzma Khan, "Lahore Zoo Education programme - an update"

R. K. Shreshta, "Achievements and Contributions for the Year at Central Zoo, Nepal"

C. S. Yalakki, "Modernisation of Trivandrum Zoo"

Shopping and dinner out formed the evening programme.



SAZARC from behind the podium. Photo by Sanjay Molur.



Adit Pal leading a discussion on zoo design. Photo by Sanjay Molur

cockroaches, grasshoppers, rats, mice, mealworms, earthworms, fowl (ducks, quail), ants, termites, etc.

Adit Pal's presentation for this session was to work through designing camel and giraffe enclosures at the Dehiwala Zoo with the group. It was an interactive



Ellen Dierenfeld researches local fruits and vegetables for animal diets from a Colombo supermarket. Photo by S. Walker.

### Day 5, Friday, December 5, 2003

Ellen gave the last two-hour session of Zoo Nutrition Training which included a final set of participant working groups which resulted in plans for a Handbook of Nutrition for South Asian Captive Wildlife. The Working Groups identified priority projects with targeted completion over the coming year.

After Ellen's presentation, the SAZARC business meeting was conducted in which Tariq Ayub invited SAZARC members to conduct the meeting in



R. K. Shreshta gives his committee report on Sustainability of SAZARC. Photos by S.Molur.



Tariq Ayub, D.G. Wildlife invites SAZARC to Pakistan in 2004.



Abdul Qadir Mehal, new President of SAZARC .



Brig H.A.N.T. Perera, outgoing President and incoming Chairman of SAZARC, kicks off the Valedictory function.

Lahore, Pakistan next year. A new President was elected and a new post of Chairman was added. Several other issues were discussed at the business meeting which is given in detail in subsequent pages and in Appendix VII in the CD.

After lunch the following participants delivered their presentations:  
Dr. Mohammad Lateef , Bahawalpur Zoo

Ravi Sharma Aryal, "CITES" Implementation  
Mohammad Tariq Ayub, "Zoo Management"  
Abdul Qadeer Mehal, "Lahore Zoo"

There was an informal but elegant and emotional valedictory ceremony with all persons on the dias having a turn at presenting certificates.

In the evening there was a pizza party by the beach which was enjoyed by all.



Participants collect Certificates of Participation from various dignitaries on the dias with a great deal of good humour.



## Day 6-7, Saturday and Sunday, December 6-7, 2003

In the morning participants left early for Pinnewala Elephant Orphanage where Ellen Dierenfeldt gave her final nutrition presentation on elephant diets ! Afterwards, the tour took in the sights at the beautiful small city of Kandy including the famous Temple of Tooth and the Peradeniya Botanical Garden and a long session of shopping before returning to Colombo on Sunday night.

The following day after the tour there was a one and a half day meeting of the Conservation Breeding Specialist Group, South Asia and the Reintroduction Specialist Group, South and East Asia. Many of the SAZARC participants were able to stay for the CBSG/RSG meeting and some, particularly the National Zoo employees, could attend the PHVA for Sri Lankan Star Tortoise and CAMP for Sri Lankan Chelonians.

The Reports, participant presentations and some photos of these meetings are included in this issue and in detail in Appendices X and XI of the CD Report.

List of Appendices in complete CD report : 1. Opening speeches, 2. Participant Expectations, etc., 3. Nutrition Notes  
4. Zoo Design – Adit's text presentations, 5. World Zoo Conservation Strategy working group reports, 6. Participant presentations – PPT and other versions of participant presentations, 7. SAZARC Business meeting (to include ADISK and ISIS, 8. Names and addresses of participants  
9. Letters and reports from participants and resource persons following the meeting, 10. Photos by various participants

Note : This Report with photographs in the text, all Power Point presentations, photo album and other items will be circulated to participants and sponsors on a CD. The Report can be viewed in colour on the Z.O.O. website at [www.zooreach.com](http://www.zooreach.com). Others may order the CD at a cost of Rs. 100.00 for Indians and \$ 10 for all others, including postage and packing.



Scenes from the SAZARC tour. Ellen giving her final lecture, Ellen being presented with a gift, Tariq with elephants, participants watching the elephants march back from their bath, new friends at the botanic garden and participants seeing the Pinnewala elephants.