

A meZOOpotamia for Iraq

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The Baghdad Zoo and all wild animals in various private collections suffered terribly during the hostilities in Iraq. Dr. N.V.K. Ashraf was requested to be part of a team of zoo professionals which visited the Baghdad Zoo one year ago, in June-July 2003. Their activities were reported in ZOOS PRINT, Vol. XVIII, No. 8, August 2003. A concept plan has been developed by Ashraf on the basis of his experience in India and visits to zoos abroad. This plan and thought process can serve as a very useful reference for anyone in South Asia who is planning either to dramatically rennovate their zoo or start a new zoo -Ed

With the advent of the 21st century, the zoo world is looking at zoos as Conservation Centres, from their past role of being menageries in the 19th century and as zoological parks in the 20th century. Like many zoos in the developing and developed world, the Baghdad Zoo is still a menagerie.

Baghdad Zoo -The Present

General layout and Organization concept

There is no organization theme of any kind evident at the zoo. Avian enclosures tend to be concentrated at one place, but a few mammalian exhibits here and there proves beyond doubt that the organization theme, if ever present, was more of an accident than anything intentional.

Visitor pathways and Circulation concept

The zoo is well connected by a network of primary roads and secondary pathways. The primary loop appears to be the road that encircles the Children's park situated in the middle of the zoo. The pathways were paved with blocks and not total Reinforced Concrete Cement.

There is no circulation concept as such, as visitor pathways invariably leading to both outdoor and indoor sections of the exhibit. The idea is probably to present the animals to the viewers while they are indoors during extremes of climate, especially summer. Interestingly, the indoor holding areas of many exhibits are substantially larger than the outdoor facilities.

There are no separate service roads for keeper access, and the accessibility to different enclosures is through visitor pathways.

Graphics and Education program

The zoo never had an education or interpretation center, not even an education officer. All this goes on to show that the zoo has been functioning more like an amusement centre rather as a centre of conservation education. Educational graphics were very elementary, merely depicting the name and origin of the species on exhibit. Even here, the information on the species' identity and place of origin were invariably incorrect. The authorities that govern the zoo had not realized the potential a captive facility in Mesopotamian land.

Zoo horticulture

Thanks to the river Tigris, water is not a problem for Baghdad Zoo. The zoo land is well irrigated by a good network of irrigation pipelines and sprinklers. Water for the

zoo is drawn from the artificial lake that is filled up from water drawn from the river Tigris. Unlike other assets of the zoo, surprisingly the pipelines and sprinklers have remained more or less intact.

Though there is no horticultural division at the zoo, the zoo gets all the plants through the Zawra Park authorities. Almost all the trees, shrubs, climbers, stranglers and herbs at the zoo are planted. The most common trees are *Ecalyptus* spp. (two species), *Citrus orientum* and *Alibizia lebbek*, besides two species of palm *Phoenix dactylifera* and *Washingtonia filifera*. The species used as hedges along guard rails are *Ficus nitida*, *Dedonea* spp., *Duranta* spp. and *Nerium oliander*. Notable species of climbers or strangling shrubs with potential for screening unwanted structures like stone walls and bars are *Bignonia unguis-cacti* and one species of *Clerodendron* spp.

Vegetation cover is sparse, but potential is there for simulating certain vegetation types of the tropics. The western block of the zoo, where the wild boar and camel enclosures are situated, is comparatively barren. There is also a need to get more shrubs and trees planted inside enclosures.

Veterinary support

Baghdad Zoo has five full time veterinarians including the Director Dr. Adel. This may be too many vets for such a small collection of animals. The recently created veterinary laboratory facility was ransacked during the war. There were no drug immobilization equipments or any medical equipment but all large carnivore enclosures had restraint cages.

Curatorial division

The zoo has no curator and therefore no curatorial department. It is therefore, not surprising to see that the zoo has no practice of keeping records. No animal history sheets or husbandry and feeding protocols exist for any species. There was no evidence of maintaining any record, either breeding records or studbooks or the source of animals. There was no record of quarantine holdings.

There is also no collection plan and the zoo seems to have been collecting species opportunistically. Whatever wildlife has managed to survive in Iraq, is being traded openly. I visited one private "zoo" in the city of Baghdad where species like striped hyena, brown bear, porcupines and gazelles are openly sold. The principal factor for the decimation of wildlife in Iraq is hunting (Abdul Wahab, 1972).

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The Future

With deserts, steppes, montane forests and scrubs, coastal swamps and wetlands, Iraq has a diversity of habitats that harbor many species of wildlife. Iraq is the home for about 68 species of mammals, 1800 species of vascular plants (Kadhim *et al*, 1977) and many species of birds and fishes, especially of the Mesopotamian marshlands. Of all the countries in the middle east, Iraq is uniquely placed because of the twin rivers Tigris and Euphrates that provide the country a perennial supply of water.

Iraq is also the meeting-point of three zoogeographical regions: Palearctic, Oriental and Ethiopian (Kadhim *et al*, 1977). As a result, the fauna of Iraq is derived from species of European origin (*Ursus arctos*, *Sus scrofa*, *Canis lupus*, *Meles meles*), Oriental origin (eg. *Hystrix indica*, *Tatera indica*, *Herpestes auropunctatus*, *Lutra perspicillata*) and African origin (eg. *Mellivora capensis*, *Acinonyx jubatus*, *Felis caracal*, *Gerbillus nanus*).

Iraq is also a land of a great cultural history, the old Mesopotamia (Greek: Land between rivers) being the home of three great ancient civilizations namely the Babylonian, Assyrian and Sumerian. These civilizations thrived along the rivers Tigris and Euphrates. Even today, most of Iraq's populations are to be found near these rivers and its tributaries. The most important of all habitat types in Iraq is the marshlands that comprise a complex of interconnected freshwater lakes, marshes and flood plains that get inundated from flowing Tigris and Euphrates rivers. These marshlands support a variety of wildlife, especially wetland birds (Scott and Evans, 1994).

Need for a Mission statement

Modern zoos are based on a theme/concept and the International Zoo Conservation strategy lays emphasize on exhibiting the local fauna. With all the cultural and biographical significance of Iraq, the present zoo can evolve into an interpretation center for Mesopotamian wildlife. This can happen either at the present location itself or an alternate place in the outskirts of Baghdad in the close vicinity of river Tigris. The mission of this *meZOOpotamia* would be to educate the Iraqis on the plight of its diminishing wildlife and habitats, create conservation which seems to be currently lacking and promote conservation breeding for possible restocking and reintroduction programs.

The zoo should preferably dispense with the idea of bringing in species that are not native to Iraq. However, there is some basis for displaying some of the animals that once lived in Iraq. There are mammals that lived during the late Pleistocene (eg. beavers, Asian elephant, wild buffalo) and mammals that became extinct recently during the turn of this century (Arabian oryx, Asiatic lions, fallow deer, onager, Asiatic cheetah) (Hatt, 1959).

Like modern zoos, *meZOOpotamia* should also function with the following objectives:

- Conservation
- Education

Animal Welfare
Research &
Recreation

Organization of collection

Having decided on the theme or concept, the zoo should have an animal collection plan. The species could be exhibited in any one of the following organization concepts.

- a) As per the place of origin of the species (Oriental, Ethiopian, Palearctic)
- b) According to the biogeographic provinces/units of Iraq (Lower Mesopotamia, Middle Mesopotamia, Deserts, Highlands, Southern Desert, Western Desert)
- c) As per the species described in ancient civilizations : Sumerian, Assyrian and Babylonian
- d) According to the bioclimatic zones of Iraq (Mountains, Deserts, Steppes, Marshes and Coasts)
- e) According to the vegetation types found in Iraq (Pine forests and oaklands, Alpine and Subalpine forests, Rivers and marshlands Reed beds and riverine thickets, Croplands and orchards, Deciduous forests)
- f) As per the biotic provinces proposed by Hatt (1959). He also lists the principal habitats within these provinces with mammalian representatives. (1. Alluvial plains and waterways, 2. Southwestern deserts, 3. Assyrian plains and foothills, 4. Kurdish mountains)
- g) Organization could also be based on the mode of life (Aquatic, Terrestrial, Flying, Terrestrial and Fossorial).

Attempts should be made to recreate or simulate these bioclimatic, vegetation, biotic or biogeographic zones before exhibits are built for various species. Visitors should be immersed in the landscape of the animals and all the recent trends in zoological park designing should be adhered to. The AZA (American Association of Zoos and Aquariums) could help the zoo authorities in this regard. Wherever appropriate, all organizations zones should be represented by all classes of vertebrates, namely mammals, birds, reptiles, amphibians and fishes of that region. The zoo can also look forward to the exhibition of some Mesopotamian invertebrates in future. Iraq being a country of great antiquity with the history of ancient Akkadine and Sumerian civilizations, there is also tremendous potential for the zoo to adopt cultural immersion, by placing the visitor areas in a landscape alike these ancient cultural scenarios.

Technical board for the zoo

There is an urgent need for technical or regulatory authority for the zoo. The governing authority has been the Municipal corporation of Baghdad, which oversees the development, and management of the zoo. Unfortunately, the zoo has been functioning in isolation without any interaction with universities or institutions concerned with wildlife conservation. With five veterinarians dominating the scene, there is no diversity amongst the technical staff of the zoo.

There is an urgent need to recruit biologists and education staff to realize its full potential.

A zoo is like a living laboratory and has tremendous potential for research in various fields of biological and veterinary sciences. I am of the opinion that this can be realized only by associating the Zoo with different institutions in Baghdad. There is a need to establish a multi-disciplinary technical board, with one or two representatives from the following institutions, besides the Zoo Director.

1. Representative from the Ministry of Agriculture or Environment
2. Representative from the Department of Biology, University of Baghdad
3. Representative from Veterinary College, Baghdad
4. Representative from Biological Research Center, Baghdad, Adhamiya, Iraq
5. Representative from Botanical Garden (if there is one)
6. Representative from other zoos in Iraq
7. Representative(s) from non-governmental wildlife conservation organizations
8. Individuals concerned with animal welfare
9. Representatives from zoos abroad: Developing and Developed countries (India/US)

The board should ideally meet at least twice a year and should initiate, by identifying appropriate expertise, for the preparation of an overall Concept Plan, followed by a Master Plan and a Management Plan containing the various

protocols. The board should also advise the *meZOO*opotamian authorities on the general direction the zoo should evolve and also review its progress made from time to time.

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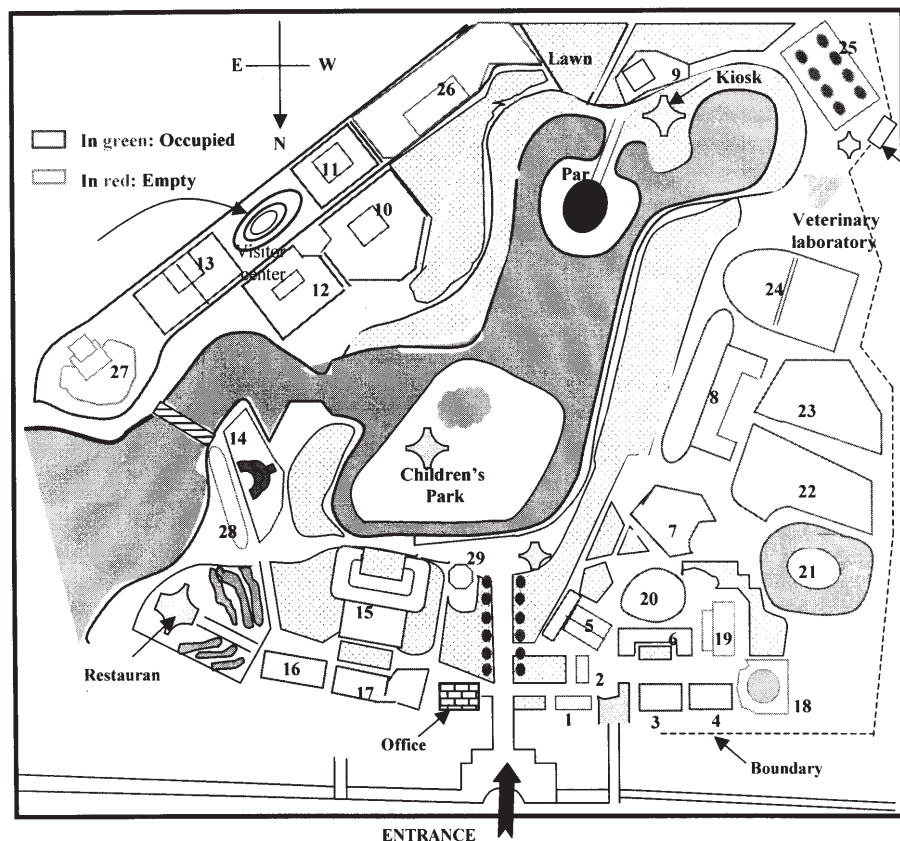
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Occupied enclosures

1. Pelican and Ducks
2. Brown fish owl and Tortoise
3. Egyptian vulture (to be moved)
4. Eagles/Kites (to be shifted)
5. Brown bear: Twin enclosures
6. Small carnivores (fox, badger, jungle cat)
7. Gazelle, Domestic goats
8. Wolf, Jackal, Brown bears, Dogs
9. Indian porcupine
10. Ostrich
11. Arabian camel
12. Pony
13. Wild boar, Domestic pig
14. Lion
15. Cheetah, Brown hyena, Rhesus macaque
16. Tiger
17. Tiger, Lion (Lioness to be moved to 14)

Empty enclosures

18. Muscovy duck pond
19. Brown hyena (now moved to 15)
20. Ibx
21. Water fowl
22. Ungulates
23. Ungulates
24. Giraffe
25. Aquarium
26. Asian elephant
27. Brown bear
28. Empty holding facilities