

Status of Hippopotamus (*Hippopotamus amphibious*) Herd in Dhaka Zoo

Ziaur Rahman, A.¹ & Syed Ali Ahasan²

The Hippopotamus herd in the Dhaka Zoo, Bangladesh was established in 1983 with one male Hippo purchased from Kenya on tender. In the year 1992 one female was purchased again from Kenya on tender. The male was alone for 8 years. Since then, the pair has bred successfully and the present population (as on June, 2006) is 5.3. Due to habitat constraint, the carrying capacity has been reached.

The boundary of the hippo shed is made of concrete on 3 sides and the fourth side with steel bar with a high caliber pipe. The land is uneven and gradually reaches in to the pond of 0.6 acre. Brick cemented wall comprises the boundary of the pond and one side of the pond has stairs for the hippos to climb.

There is an indoor house and resting space by the side of the pond covering 0.25 acre of land. The total area of the habitat is 1.4 acres. The semi-aquatic animals communicate among themselves by staccato grunts and deep rumbles. They come together in resting and feeding land area when feeds are supplied. In 1988 when the whole country went under flood one male escaped from his enclosure to the south lake of Dhaka Zoo just adjacent to the enclosure. One pair was donated to the Dulahazara Safari Park, Cox's Bazar on December, 2004 and one adult male was donated to the Rangpur Zoo on February, 2006.

A 20 day old male kid died on 26 September, 2002 due to severe injury (profuse haemorrhage, deep wound in the thigh muscle and testies) from an attack by an adult dominant male. One adult male had died on 10 November of 2004 due to wounds. Septicemia occurred and record to be attacked by the dominant one was also found in this case.

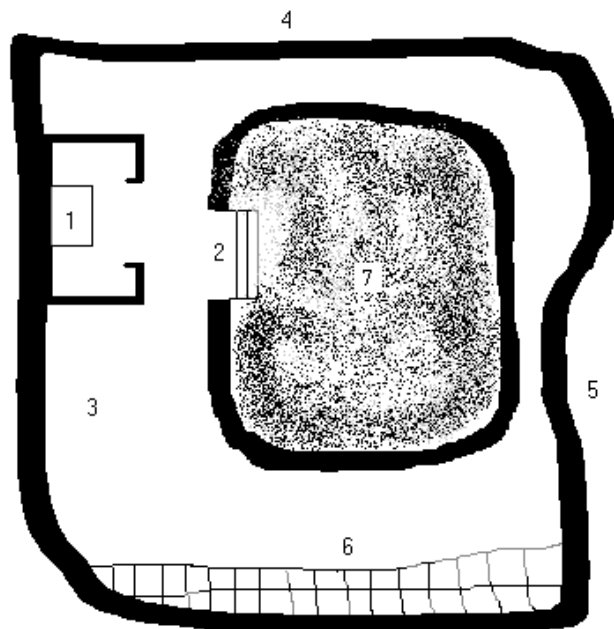
Some high rise trees of Koroi (*Albizia procera*) surround the shed that are not sufficient for giving proper shade on sunny and hot weather days. Concentrate mixture of rice polish, wheat bran, soybean meal cake etc. with vitamin - mineral premix, iodized salt in proper ratio (8kg/day) along with other grasses (*Brachiaria mutica*, *Zea mays* etc.) of 70kg/day with leafy vegetables of 15 kg/day for each adult animal are supplied. The feed ratio and quantity varies according to seasonal condition.

Data on number and sex were recorded. The networks of paths, trees, boundary, land, water and other habitat conditions, observation during night, changing behaviours were also recorded. It should be mentioned that Dhaka Zoo has not yet experienced any inbreeding effect / congenital defect in this herd to our knowledge. Some secondary data were collected from Dhaka Zoo.

Results and discussion

Inadequate trough space, inadequate space in indoor housing or lack of feeders can mean that the dominant animal command more resources. Due to these constraints the subordinate animals suffer that could affect the health and general health condition. In the extreme of

dominance, just the presence of the highest ranking individual can physiologically decrease salivation and hunger. Dominance hierarchy or pack helps to minimize aggression in the animals and protect them from serious injury (Fraser *et al.* 1991).



Map: The shed of the *Hippopotamus* of Dhaka Zoo, Bangladesh. 1 = Indoor house, 2 = Pond gate, 3 = Uneven land (space) of the shed, 4 = Hard & concrete boundary, 5 = South lake side, 6 = Protection by steel pipe, 7 = Pond, 8 = Public path.

Each group occupies a home range, within the territory of a dominant male. This male marks his territory with heaps of dung that he scatters by furiously wagging his tail. Other males enter the territory, but they are tolerated only if they behave submissively and do not attempt to mate. Territorial conflict between male hippopotamus is common particularly where population densities are high. If, after a period of roaring and ritualized displaying, neither male gives way, a fight will ensue, using their lower canines as weapons, a battle may last for hours and result in serious injury (Burnie, 2001).

The shed is totally grassless, hard with uneven topography and sticky reddish soil. Rainfall creates slippery conditions. Generally, severe panic is observed in the herd during dominance fights that creates serious medical problems and also death. More number of males is another

¹Veterinary Surgeon, Veterinary Hospital, Tetulia, Panchagarh, Bangladesh. aziaurr@yahoo.com

²Scientific Officer, Dhaka Zoo, Bangladesh, ahasan0072003@yahoo.com

big issue which is the prime cause of fights and severe injuries during the mating period. Fighting behaviour is also observed during feeding time.

Table-1. Herd composition and visual body condition of Hippopotamus in Dhaka Zoo, Bangladesh.

Sex & age class	Total	Good	Fair	% total pop
Adult males	4	3	1	50
Sub-adult male	1	1	-	12.5
Adult females	3	2	1	37.5

Recommendations

1. To increase the area of the Hippopotamus corner by the side of the south lake considering present habitat constraints.
2. A complete and long term breeding road map for future has to be drawn considering the inbreeding effects, feed cost minimization (economic), male and female ratio and habitat constraints.

References:

Burnie, D. (2001). *Animal*: Dorling Kindersley, London. pp. 234-235.
 Fraser M.C., J.A. Bergeron, A. Mays and S.E. Aiello (1991). *The Merck Veterinary Manual*. Mark & co., Inc. NJ, USA

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Animal Birth

On 11th November 2006, a baby Hoolock gibbon (*Hoolock hoolock hoolock*). was born on exhibit in the morning without any complications at the Dhaka Zoological Gardens, Bangladesh. Sex is as yet unknown. The birth is the second in three years.

Goitered Gazelle
 (*Gazella subgutturosa*)



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