MOST IMMEDIATE

F.No.25-1/2002-CZA(Vol.II)(AK) 2 2 9 3 /2018
Government of India
Ministry of Environment, Forest and Climate Change
Central Zoo Authority

Pandit Deendayal Antyodaya Bhawan, New Delhi
Dated the 11th January, 2018

To,
The Director/Curator/Officer in charge of all recognised zoos

CIRCULAR

Subject: Bio-security measures against spread of Foot and Mouth Disease among captive wild animals housed in Zoos - regarding

Reference:
2. This office Circular F.No.25-1/2002-CZA(M) dated 18.11.2004

Sir / Madam,

It is to inform that this office has issued an advisory vide Circular of even number dated 19.07.2007 on the above subject. Also, the Central Zoo Authority has circulated 'Suggested Health Monitoring Protocol for Zoos' vide Circular dated 18.11.2004 (copy enclosed). This is available on the website of the Central Zoo Authority (www.cza.nic.in). Reports about suspected outbreak of Foot and Mouth Disease in M.C. Zoological Park, Chhatbir, Punjab and death of Gaur (1), Blackbuck (2) and Chowsingha (2) has been received.

Further, this office in collaboration with the IVRI has published 'Standards, Guidelines and Protocol on Disease Diagnosis and Cure of Wild animals in Indian Zoos'. The same may be referred to. This is also available on the website of the Central Zoo Authority (www.cza.nic.in).

In addition to the above, you are advised to coordinate with the State Animal Husbandry Department and ensure implementation of the Action Plan under Foot and Mouth Disease Control Programme prescribed by the Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture and Farmers' Welfare, Government of India.

Continued...
Further, you may avail the technical expertise, if required, from the Indian Veterinary Research Institute that has been designated by the CZA as National Referral Centre for all zoos in the country.

In this regard, it is to reiterate that Bio-security measures be improved in zoos to avoid spread of Foot and Mouth Disease among captive wild animals by timely vaccination of animals and seromonitoring. Necessary **Bio-security measures be taken up on priority as per the recommendation of the Indian Veterinary Research Institute, Izatnagar, Bareilly.** Copy of the same is enclosed.

The Operator of respective zoo shall ensure compliance of the same in coordination with the Director, Animal Husbandry Department of the State and locality. Also, the Health Advisory Committee of the Zoo be consulted for technical assistance.

It is requested to ensure appropriate disease surveillance measures in the zoos as mandatory under Schedule 5(6), 5(7) and 5(8) of Rule 10 under the Recognition of Zoo rules, 2009.

Action taken in this regard be apprised to this Authority.

Yours sincerely,

(Encls. As above)

(Dr. D. N. Singh)
Member Secretary

Copy for information and necessary action to:

1. The Chief Wildlife Warden of all States / UTs.
2. The Municipal Commissioner of Ahmedabad, Aurangabad, Coimbatore, Cuttack, Gwalior, Indore, Mumbai, Pune, Rajkot, Solapur, Surat, Thanjavur & Vadodara,
3. The Managing Director of Steel Plants at Bhilai, Bokaro, Jamshedpur & Rourkela
Biosecurity measures to be followed at the Zoological Park

1. **An understanding of routes/ modes of Foot-and-mouth disease virus transmission in susceptible wild animals is necessary to ensure that work practices minimise biosecurity risk. There is a risk of disease spread to, from, or between zoo animals through men (movement of people etc) and material (vehicles, feed and fodder, water etc) and particularly through the transfer of virus via footwear, clothing and farm equipment/implements. All people who work in direct or close contact with animals and animal feed/products (whether employed staff, volunteers, researchers or students) have the potential to transfer virus into the zoo and cause disease.**

2. It is to mention here that FMD virus ingress into zoos from the neighbouring habituated areas/villages through trespassing livestock, and movement of men and materials into the zoo premises.

3. One Bio-security officer with Veterinary Science background should be in place in the zoo to implement and monitor the strict biosecurity measures for prevention of FMD. This will help in preventing other infectious and transmissible diseases too.

4. Once any FMD susceptible animal (antelopes, elephant and giraffe etc) found sick, they should be segregated/quarantined immediately irrespective of diagnosis in enclosures far away from the healthy susceptible animals. These animals should be seromonitoring against FMD.

5. Necessary information regarding introduction of any animal coming from abroad (Specially Africa and Middle-East) to be provided well in advance to the respective AH department and ICAR-PDFMD, Mukteswar to eliminate the threat of exotic strains of FMD virus serotypes.

6. During FMD incidences, the premises of FMD-susceptible animals should be thoroughly disinfected with 4% (w/v) Sodium Hydroxide. Animal feed and fodder to be sprayed with 4% Sodium Bicarbonate, and drinking water should be treated with 2% Sodium Bicarbonate.

7. Deep troughs (sixteen feet long and three feet wide) with 4% Sodium Hydroxide sufficient to dip the wheels (all around) of vehicles should be in place at the main entrance/exit to the zoo area and also for zoo visitors. Care should be taken that the disinfectant solution present in the deep troughs should not get dirty/muddy. During occurrence of FMD it is essential to replace the disinfectant solution on daily basis.

*Note: Disinfectants, used at the recommended dilution, are effective when applied to clean surfaces*

8. Change over system (cloth and shoe etc) with shower should be in place for zoo animal workers including veterinary staff.
9. Separate animal handlers/attendants should be engaged for each species of FMD susceptible animals. The attendants should be provided with separate clean uniform, footwear, gloves, and caps. The profile of each animal attendant should be recorded and they should be advised not to maintain any livestock susceptible to FMD at their home and should be discouraged to visit any livestock market and premises. Residents inside the zoo should be debarred from maintaining any FMD susceptible livestock inside the premises.

10. Dung from infected animals should be discarded in pits after thorough mixing of Caustic soda (Sodium Hydroxide).

11. During the FMD outbreak/incidences in a Zoo, the Vet Doctor should first attend the healthy animals followed by treating the sick animals. While attending the FMD infected animals, the veterinary doctors and associated staffs should use disposable personal protective equipments (PPE) such as coverall, gloves, mask, head cover, shoe cover etc. Subsequently, these PPE must be disinfected with NaOH and buried to avoid the transmission of the virus.

12. Staff working with animals should wear only dedicated footwear whilst on zoo grounds. Best practice is for footwear to be removed and remain at the zoo site at the end of each work day.

13. If possible, animals may be vaccinated against FMD twice in a year and seromonitor to keep the animals immune to FMD.

14. Administrative measures may be initiated to ban the regular/ temporary and unauthorized livestock market adjacent to the Zoological Park to check the transmission of diseases to captive animals in the zoological park.

15. Feel free for any further assistance.
F. No. 19-72/92-CZA(139)(Vol.V)(SB)  

Dated:-19/07/2007

To

1. The Chief Wildlife Wardens of all States, Union Territory


3. The Officer-in-charge of Large, Medium and Small zoos

CIRCULAR

Sub:- Outbreak of Foot and Mouth Disease (FMD) – Reg.


Sir,

You may be aware of the recent outbreak of Foot and Mouth Disease (FMD) among the Mithun and other wild animals at Thiruvananthapuram Zoo, Thiruvananthapuram (Kerala). Keeping in view of the welfare of the animals, you are requested to kindly issue necessary instruction to all the recognized zoos in your States including those under the control of Municipal Corporation, Public Sectors/Trusts to take all precautionary measures as per the advice of the veterinary doctor of the zoo and State Animal Husbandry Department to prevent outbreak of such diseases among the zoo animals. Action taken in this regard may please be communicated to the undersigned.

Yours faithfully

(B.R. Sharma)  
Member Secretary
7 (o). Suggested Health Monitoring Protocol for Zoos

Following are the overall suggestions and recommendations which can be implemented to zoos having the large felids:

1. Maintaining detailed information pertaining to a breeding/studbook in a uniform manner helps proper selection of breeding population. It prevents inbreeding and gives chance for the expression of most of the founder gene.

2. Systemic and comprehensive recording of husbandry, medical and pathological data is essential in a uniform manner. The use of standardized computer programme (such as ARKS and MEDARKS from ISIS) is advisable.

3. The use of standard prescribed proforma for postmortem report, biological sample collection and dispatch is important.

4. Use of skin tattoos and/or implanted transponders for proper identification of individual animal is recommended.

5. Properly designed housing facilities that cater the physical and psychological needs of the large felids should be used. The housing facilities should meet the standards prescribed by the Central Zoo Authority.

6. Since the feed given to large felids is meat, it is recommended to add 5 g calcium carbonate, 10 gm Di-calcium phosphate with every 2 kg muscle meat. Whereas the addition of good quality 1.2 gm multi-vitamin-mineral powder is also advisable to meet the requirement of vitamins and minerals.

7. Feed should be thoroughly checked for quality and occasionally for laboratory examination to know the load of pathogenic micro-organism. Gross observations for presence of cyst and other contaminants should be done to prevent diseases.

8. The food preparation area should be clean and free from flies, insect pests as well as pathogenic microorganisms.

9. Transmission of pathogen should be minimized with proper hygiene and sanitation.
10. Regular disinfection of feed preparation area, feeding cubicles and utensils should be carried out. Use of ultra violet lights and fly/insects repellents is highly recommended.

11. To control the spread of zoonotic diseases staff should be periodically screened for variety of condition. In case of cat keepers, annual tests should at least be carried out lot. Tuberculosis, toxoplasmosis and other communicable diseases.

12. Individual animal should be carefully observed every day for its physical state, food and water consumption, urination, defection, alertness and activity. Similarly careful examination of an animal’s den and enclosure can also be rewarding.

13. The observations made by the keeper/staff should be documented daily and presented to the veterinarian and supervisory staff for evaluation and for necessary actions.

14. Some animals are very shy or hyper excited, like mother with cub and pair during mating. During such occasions consideration should be given for the use of phones or even video cameras with which cats may be monitored remotely.

15. Whenever an opportunity arises, cats should be undergo a thorough physical examination. During such times, biological materials like blood, urine, faces and other body fluids may be collected for detailed laboratory examination (bacterial and parasitic isolation serological examination).

16. Periodic screening of all the animals for parasitic, bacterial and viral infections is essential part of health management. The faecal screening should be carried out every three month. There is a need of sero epidemiological survey of major viral diseases in large felids.

17. The collection and examination of blood samples for nutrients, parasites and body status is recommended every eyar. Whereas, bacteriological screening of animals for important bacterial pathogens should be carried out every six months.

18. On the basis of the report of parasitic study, the deworming should be carried out using suitable drugs. Even if no parasite are detected in the periodic screening it is recommended giving anthelmintics to all the animals
every six months. At the same time alternative use of deworming drugs is essential to avoid drug resistance.

19. To control the entry of feral dogs, cats and mongoose, zoo and cage boundary should be made in such a way that it prevents entry of such animals.

20. The vaccination against Panleukopenia (Feline Distemper), Rhinotrachitis and Calici virus is recommended using Fel-O-Vax (Fort Dodge Alb inc.). The juveniles should be vaccinated at 6, 12 and 16 weeks of age, and should be repeated at six months and then given annual booster.

21. A period of 30 days or more for quarantine is recommended for every animal entering the collection.

sd/-
(R.G. Jani)
Member

sd/-
(A.B. Shrivastav)
Member

sd/-
(L.N. Acharjyo)
Chairman

Date: 08.10.2004
Place: New Delhi

* Issued to the Chief Wildlife Wardens of all states and Director/ Curators/ Zoo-Incharge of all Large, Medium and Small Zoos having large Carnivores species vide letter No. 25-1/2002-CZA(M), dated 18.11.2004.