

## Chapter -1

### INTRODUCTION

**1.1-About the Kanpur Zoo-**The Kanpur Zoological Park is one of the old zoos and was opened for the public on 4th February 1974. The Zoo is situated in the Allen Forest area by the side of river Ganga within the Corporation limits of the city of Kanpur. An area covering 76.56 hectares of ravenous land was acquired in the year 1913-14 by the State Forest Department at the instance and recommendation of Sir George Berney Allen, a noted industrialist of Kanpur and afforested during the year 1913 to 1918. It acted as a timber producing forest and as recreation forest for the city dwellers. To preserve this, the State Government in the year 1968 decided to utilize it as a zoological Park, Thus, enclosing an area of 184 acres from Allen Forest, encompassing the beautiful lake sprawling over about 40 acres, the construction work was started from the year 1971 by the State Forest Department under the guidance and supervision of experienced advisors. The zoo at present has 76 species with a total number of 1246 individuals. The zoo is conserving 22 highly endangered species with 229 individuals. The Zoo has an excellent track record of conservation breeding of highly endangered species and other species of animals and birds. More than 6 lacks people visit the zoo every year.

**1.2-Disaster** – Zoological parks of India are susceptible to a number of hazards like floods, cyclones, earthquakes, landslides, fires etc. of natural origin and fire, epidemics, animal escapes, civil disturbances etc. of manmade origin. These hazards are bound to take place and every zoo is vulnerable for these hazards. Hazard is a rare or extreme natural or human made event that threatens to adversely affect human life, property or activity to the extent of causing disaster. The institution should have the capacity to deal with these hazards.

Some of the emergency situations that zoo can face are illustrated as follows -

- Natural disorders like fire, flood, drought, cold and many other seasonal variations.
- Outbreak of Epidemic diseases.
- Curfew etc situations.
- Entry of stray animals inside the zoo.
- Escapes of Zoo animals

**1.3-Management Plan** - Meticulous prior planning with adequate finance is needed for preparedness to face such exigencies in the interest of the Zoo animals, its property, as well as the public safety. Management plan has been prepared keeping in view the following aspects.

- There has to be an overall in-charge in the zoo for giving direction and getting the plan prepared, and implemented
- The members of the team are to be identified meticulously
- Control room and media centers will help in coordinated approach to the disaster and in the dissemination of information
- Establish adequate communication and warning capabilities
- Establish adequate evacuation procedures
- Establish damage assessment capabilities

## Chapter-2

### PLANNING FOR ZOO EMERGENCIES

**Introduction-** This chapter deals with planning for zoo emergencies. It includes constitution of an emergency team, their duties and responsibilities, hazards and its management, capability of staff, available equipment, warning people about the emergencies, relationship with other agencies like district authority, media etc and protection of office records.

**2.1** For the crises management, an emergency team has been constituted and their duties are clearly defined. Emergency team consists of following members.

- 1- Director of the zoo.
- 2- Emergency coordinator.
- 3- Medical coordinator.
- 4- Warning /information coordinator.
- 5- Maintenance Coordinator.
- 6- Assessment Coordinator.
- 7- Security Coordinator.

Details about the members of the emergency team

| Sl.No. | Leader of The Team              | Designation of The Team Leader  | Team Leader Assisted By  |
|--------|---------------------------------|---------------------------------|--|
| 1-     | Director of the zoo.            | CCF/CF                          | All staff and team members.  |
| 2-     | Emergency Coordinator.          | Assistant conservator of forest | Unit coordinators, chaukidars , office staff and gardeners         |
| 3-     | Medical Coordinator             | Veterinary doctors.             | Veterinary staff.  |
| 4-     | Warning/information coordinator | Range officer Protection        | Stenographer, head clerk and orderly                               |
| 5-     | Assessment Coordinator          | Range officer Administration    | Forester, Clerk and orderly.                                       |
| 6-     | Maintenance Coordinator         | Forester                        | Carpenter, mason, electrician, tube well operator, ticket checker. |
| 7-     | Security Coordinator            | Forester                        | Chaukidars, keepers, security guards, PRD Jawans and Labors        |

- Name wise list of the members of the emergency team is given as annexure no 1.

## **2.2 Duties and Responsibilities of the members of the team**

### **2.2.1 Director, Kanpur Zoological Park Kanpur**

The role of Director of the Zoo is very vital before and during exigencies. He will be the one who is responsible for imparting training to people in the different protective actions before actual emergency occurs. He has to make decisions on protective actions, operations and expenditures. He will be receiving information and recommendations from the emergency coordinators and will be taking appropriate decisions. He will be ably assisted by the Assistant Conservator of Forests, who is acting as the curator of the zoo.

#### **Director's primary responsibilities are:**

- Identifying the people and assigning tasks to them.
- Deciding and implementing protective actions so that the consequences of the disaster are minimized
- Allowing the use of internal resources of the zoo whenever it is required to do so and arranging necessary logistics.
- Arranging the finances for implementing the plan.

### **2.2.2 Emergency Coordinator**

The Emergency Coordinator for the Zoo is Curator/ Assistant conservator of Forests and he will be assisted by Range Forest Officers, Unit coordinator, Chaukidars, office staff gardeners, keepers etc.

#### **The main responsibilities of the emergency coordinator are**

- Maintaining a current disaster management plan and testing it on regular basis.
- Ensuring that all members of different teams are well trained in dealing with exigencies
- Coordinating the functioning of different teams that are involved in crisis management.
- Notifying local authorities of an emergency or disaster situation.
- Ensuring that vital records are identified and protected
- Making arrangements for logistics, emergency housing and feeding for personnel involved in emergency operations
- Making provisions for food and water requirements of Zoo animals
- Organizing and maintaining control room with adequate communication facilities
- Implementing decisions and directives from the Director.

### **2.2.3 Medical Coordinator**

Medical Coordinator for the Zoo is Veterinary Doctor posted at Kanpur Zoo.

The medical coordinator is responsible for providing immediate care to injured persons/ injured Zoo animals, as well as the collecting and compiling of health and medical-related disaster information.

#### **Emergency Medical Coordinator's Primary responsibilities are:**

- Participating in site medical emergency plan review meetings.
- Ensuring that emergency medical care/ first aid is provided to injured persons and animals
- Maintaining adequate quantities of medicines
- Maintaining all equipment in a proper manner to meet any exigencies.

- Collecting and compiling health/medical disaster information for the Assessment Coordinator.
- Coordinating ambulance calling and pick-up, medical assistance etc.

#### **2.2.4 Warning/ Information Coordinator**

Warning/ Information coordinator for the Zoo is Forest Range officer Protection, who can understand the priorities of the zoo and he will be assisted by Stenographer, Head Clerk, and orderly etc.

During disaster occurrence in the zoological park the following action will be taken by the range officer-

1-The first and foremost thing to be done is intimating different coordinators of the zoo about the occurrence of disaster(can be done-through blustering of an alarm/ making public announcements/ wireless messages/ cell phones etc).

2-Communicating about the disaster with the local authorities like police/ fire departments and providing information about the disaster to the print/ electronic media etc.

#### **Warning/ Information Coordinator's Primary responsibilities are:**

- Ensuring that protective actions are publicized for all employees
- Participating in emergency plan review meetings
- Training the people working under them
- Establishing a media centre and making arrangements for logging the messages
- Maintaining communication equipment like wireless sets, fax machines, telephone lines etc.
- Receiving and disseminating information about the disaster
- Communicating with the local police/fire departments for assistance
- Requesting the district administration for vehicles/ personnel
- Preparing press notes after consulting assessment coordinator and submitting them to the officer in charge of the zoo for press release
- Conducting media tours whenever possible
- The information coordinator will also be responsible for developing news releases, answering media questions, ensuring that protective actions are publicized for all employees, etc.

#### **2.2.5 Assessment Coordinator**

Assessment Coordinator for the Zoo will be Forest range officer Administration and he will be assisted by Forester, keepers, L.D.C and an orderly.

#### **Assessment Coordinator's Primary responsibilities are:**

- Assessing of the extent of losses due to disaster.
- Collecting and verifying information about the disaster.
- Participating in emergency plan review meetings.
- Training the people working under him
- Collecting and compiling information on disaster situation.
  - Maintaining a written record of all events that occur including actions taken, decisions made and by whom, personnel involved, costs incurred, etc.
  - Reporting verified damage information to the officer in charge of the zoo.
  - Assisting with the preparation of reports like after-action report.
  - Preparing press releases,

- Evaluating response efforts and preparedness of the zoo personnel in dealing with disasters,
- Assessing further training needs of the personnel,
- Knowing about the lacunae in the plan prepared,
- Giving inputs for future crises management efforts etc.

### **2.2.6 Maintenance Coordinator**

Maintenance Coordinator for the Zoo is a designated Forester of the zoo and he will be assisted by carpenter, mason, electrician, tube well operator, ticket checkers etc. Crisis deepens when the men are ready but not the materials and mechanical systems, hence the maintenance of these systems is very important.

The maintenance coordinator will be responsible for smooth functioning of all mechanical and utility systems of the zoo and in shutting down of the electrical systems during exigencies. He will also be responsible for maintaining adequate spares, removing of fallen trees, debris etc and in erecting of barricades etc.

#### **Maintenance Coordinator's Primary responsibilities are:**

- Participating in emergency plan review meetings.
- Proper maintenance of cages, squeeze cages, fire extinguishers, tube wells, electrical supply points, tractor, trolleys, welding machines, earth moving equipment, shovels, axes, cutters, blades, ropes, ladders and spare parts of different mechanical devices etc
- Training the people working under them
- Putting up of barricades for the control of traffic.
- Getting the fallen trees, poles, debris of the buildings etc cleared off
- Inspecting the damaged areas with his team and giving recommendations for entry/ reuse etc

### **2.2.7 Security Coordinator**

Security Coordinator for the Zoo is a designated Forester of the zoo.

He will be responsible for coordinating safe removal of stranded people, controlling the movement of vehicles, checking the unauthorized entry of people, catching/ caging/ netting / tranquilizing of animals that have escaped their houses as early as possible.

#### **Security Coordinator's Primary responsibilities are:**

- Participating in emergency plan meetings
- Providing training and conducting of mock drills
- Ensuring that all wire meshes, chain link fences, walls, double doors, shutters etc are in good condition and getting them repaired immediately
- Ensuring that the trapping materials are in good working condition and are available as per requirement
- Periodic checking for breached boundary walls
- Lopping and cutting of trees that might pose danger
- Controlling the movement of people and vehicles
- Preventing unauthorized entry
- Assisting with the care and handling of injured persons.
- Assisting with fire suppression, if necessary etc.

Kanpur Zoo is divided in to six sectors. Foresters/WLG in-charge of each sector is the Unit Coordinators for the sector. They will be assisted by the Chowkidars, Gardner's, Animal keepers, laborers who are working under them.-

List of unit coordinators are given below

1. Sector -1 Sector in charge (Forester/Forester Guard)
2. Sector-2 Sector in charge (Forester/Forester Guard)
3. Sector-3 Sector in charge (Forester/Forester Guard)
4. Sector-4 Sector in charge (Forester/Forester Guard)
5. Sector-5 Sector in charge (Forester/Forester Guard)
6. Sector-6 Sector in charge (Forester/Forester Guard)

The name of the officers/staff has been given in the annexure no1.It will be revised whenever officer/staff will be transferred.

The unit coordinators will be responsible for-

- Compliance of the directions of emergency coordinator
- Participating in the plan review meetings and giving their inputs.
- Training the people working under them.
- Conducting mock drills.
- Taking in protective actions within their jurisdiction before an actual emergency occurs.
- Identifying and ensuring protection of vital things under their jurisdiction.
- Mobilizing resources and personnel.
- Ensuring that stranded zoo visitors are taken safely to the designated shelter/evacuation areas.
- Ensuring that the electricity points are shut down during emergencies.
- Helping in the proper movement of people and vehicles.

**2.3 Hazards and its management-** Flood, Fire, Drought and civil disturbances etc are the hazards that can hit the zoo. List of hazards that zoo might face is listed and possibility of each hazard has been estimated using a scale of 1 to 3 where in

- 1- Low impact
- 2-Moderate impact
- 3- High impact

Likewise Employ Impact, Property Impact and Economic Impact was estimated using a scale of 1 to 3 where in

- 1- Low impact
- 2-Moderate impact
- 3- High impact

Hazard matrix has been prepared as follows-

| <b>Hazards</b>                    | <b>Possibility</b> | <b>Employ ee Impact</b> | <b>Property Impact</b> | <b>Economic Impact</b> | <b>Total Impact</b> |
|-----------------------------------|--------------------|-------------------------|------------------------|------------------------|---------------------|
| Fire                              | 1                  | 1                       | 1                      | 1                      | 4                   |
| Bomb Threat                       | 1                  | 1                       | 1                      | 1                      | 4                   |
| Civil Unrest                      | 2                  | 1                       | 2                      | 1                      | 6                   |
| Escape of Animals from enclosures | 1                  | 1                       | 2                      | 2                      | 6                   |
| Animal diseases                   | 3                  | 2                       | 3                      | 3                      | 11                  |
| Flood / water                     | 2                  | 1                       | 3                      | 3                      | 9                   |

|            |   |   |   |   |   |
|------------|---|---|---|---|---|
| Logging    |   |   |   |   |   |
| Drought    | 2 | 1 | 1 | 2 | 6 |
| Earthquake | 1 | 1 | 1 | 1 | 4 |

**2.3.1 Hazards matrix-** The rating of hazards and its analysis is as below-

1. Animal diseases -- (11 points)
2. Flood / water Logging -- (9 points)
3. Escape of Animals from enclosures -- (6 points)
4. Drought -- (6 points)
5. Civil Unrest -- (6 points)
6. Fire - (4 points)
7. Bomb Threat -- (4 points)
8. Earthquake -- (4 points)

From the analysis it is clear that hazard due to animal disease is the highest followed by hazards due to flood and animal escape.

**2.3.2 Capability of staff- Detail about skilled staff and their phone no are given below-**

The Zoo management has identified the skills possessed by its employees that can be used during emergency situations. The identified employees whose list is given below will be asked for their participation in the emergency operations.

In order to tone up the skills of the employees the management will organize workshops/trainings etc. on continuous basis.

| Employee Name         | Skill                       | Phone number |
|-----------------------|-----------------------------|--------------|
| Shri Ramesh chandra   | Animal handler (carnivore)  | 8765974085   |
| Shri Ravindra Yadav   | Animal Handler (herbivores) | 8765974090   |
| Shri Rambaran Sharma  | Animal Handler (Birds)      | 8765974087   |
| Shri SoneLal          | Animal Handler (Crocodile)  | 8765974138   |
| Shri Raghupati singh  | Animal Handler (monkeys)    | 8765974086   |
| Shri Vinod Kumar      | Snake Catcher               | 8765974109   |
| Shri Tara Chandra     | Good climber of the trees   | 8765974146   |
| Shri M.K.Shukla       | Good at public relations    | 8765974105   |
| Shri Vishwajeet singh | Good at communication       | 8765974074   |
| Shri Rathor           | Trained in first-aid        | 8765974150   |
| Shri Bharath singh    | Good fire fighter           | 8765974145   |
| Shri Brijesh kumar    | Good Ticketing Staff        | 8765974089   |
| Shri Ram Mishra       | Good Watchman               | 8765974129   |
| Shri Satendra Yadav   | Good Driver                 | 8765974147   |

**2.4 Available Equipment-**

Zoo requires a variety of equipment to respond to the hazards. List of the equipment needed has been prepared and provision has been made in the budget for purchasing of new equipment and for replacing of the old, worn out equipment.

List of equipment needed by the zoo for dealing with different kinds of emergencies are shown in table.

**List of Equipment needed:**

| <b>Captive animals</b>                         | <b>Minimal requirement</b>  | <b>Highly recommended but not required</b> | <b>What your zoo has</b>   |
|--|---|--|--|
| Large carnivores                               | Nets, pole syringes, snare, Projectile guns and darts, blow dart equipment, crates, squeeze cages etc | Nil  | Nets, pole syringes, snare, Projectile guns and darts, blow dart equipment                   |
| Small carnivores                               | Nets, gloves, pole syringes, snare, crates, blow dart equipment, crates, squeeze cage etc             | Nil  | Nets, gloves, pole syringes, snare, crates, blow dart equipment, crates, squeeze cage etc    |
| Hoofed stock                                   | Projectile guns and darts, blow dart equipment, crates etc  | Custom designed squeeze cages              | Projectile guns and darts, blow dart equipment, crates etc                                   |
| Small mammals (e.g. primates).                 | Nets, gloves, pole syringe, snares, plastic tubes, blow dart equipment, crates, squeeze cage          | Nil  | Nets, gloves, pole syringe, snares, plastic tubes, blow dart equipment, crates, squeeze cage |
| Large primates like chimpanzée, orangutans etc | Nets, gloves, pole syringe, projectile guns and darts, blow dart equipment                            | Nil  | Nets, gloves, pole syringe, projectile guns and darts, blow dart equipment                   |
| Birds  | Nets, gloves, towels, pole syringe  | Nil  | Nets, gloves, towels, pole syringe   |
| Reptiles                                       | Nets, gloves, snares, plastic shield, bags, plastic tubes, snake tong, snake hook etc                 | Squeeze cages                              | Nets, gloves, snares, plastic shield, bags, plastic tubes, snake tong, snake hook etc        |
| Reptiles                                       | Nets, gloves, snares, bags, plastic tubes, snake tongs, snake hooks etc                               | Nil  | Nets, gloves, snares, bags, plastic tubes, snake tongs, snake hooks etc                      |



## 2.5- Warning people about the emergencies

| Minimal requirement                  | Highly recommended but not required | What your zoo has |
|--------------------------------------|-------------------------------------|-------------------|
| Alarm systems                        | Nil                                 | All Required      |
| Public address system                | Nil                                 | All Required      |
| Radio communications (walkie talkie) | Nil                                 | All Required      |

## 2.6- Requirement of flood equipment

| Minimal requirement   | Highly recommended but not required | What your zoo has |
|-----------------------|-------------------------------------|-------------------|
| Large and small boats | Nil                                 | All Required      |
| Rope and chain        | Nil                                 | All Required      |
| Zette.                | Nil                                 | All Required      |

## 2.7- Requirement of fire equipment

| Minimal requirement           | Highly recommended but not required | What your zoo has |
|-------------------------------|-------------------------------------|-------------------|
| Tractor mounted water tanker. | Nil                                 | All Required      |
| Rope and chain.               | Nil                                 | All Required      |
| Jetty.                        | Nil                                 | All Required      |

## 2.8- Requirement of animal diseases,

| Minimal requirement | Highly recommended but not required | What your zoo has |
|---------------------|-------------------------------------|-------------------|
| Medicines           | Nil                                 | Available         |
| Treatment devices   | Nil                                 | Available         |

2.9- Requirement of explosion equipments-For this purpose zoo administration will be in contact of police authorities, fire and emergency medical services.

## 2.10- Equipment and vehicles-

| Equipment/<br>Vehicle Type and its number | Department    | Address          | Telephone Number |
|---|---------------|------------------|------------------|
| Gypsy UP 78 R 0512                        | Forest Deptt. | KZP              | 05122560257      |
| Jeep UP 78 U 4243                         | Forest Deptt. | SDO Kanpur Nagar | 9412170389       |
| Jeep -                                    | Forest Deptt. | SDO Kanpur Dehat | 9760458774       |
| Jeep UP 32 AK 0477                        | Forest Deptt. | Silva Kanpur     | 9412287068       |
| Jeep UP 32 AA 5661                        | Forest Deptt. | Silva Kanpur     | 9412708244       |
| Car- UP 32D 5383                          | Forest Deptt. | DFO Kanpur       | 9415046636       |

|                             |               |                |            |
|-----------------------------|---------------|----------------|------------|
| Car UP 32 BG 0208           | Forest Deptt. | CCF Kanpur     | 9450877777 |
| Mini Bus UP 78 B 0984       | Forest Deptt. | FTI Kanpur     | 2604259    |
| Mini Bus UP 32 BT 9038      | Forest Deptt. | FTI Kanpur     | 2641342    |
| Water Tanker UP 78 BG 0214  | Forest Deptt. | RO Kanpur      | 9452603395 |
| Trolley UP 78 BG 0214       | Forest Deptt. | RO Kanpur      | 9452603395 |
| Earth moving equipment JCB  | Private       | Pintu singh    | 9936570954 |
| Ambulance services          | Health Deptt. | Kanpur Nagar   | 108        |
| J.C.B Machine UP 78 BG 4240 | Private       | Rajesh katiyar | 9415130251 |

## 2.11- Local Response Capabilities

| Name of the department      | Name of the officer in-charge | Contact number |     |            |
|-----------------------------|-------------------------------|----------------|-----|------------|
|                             |                               | Office         | Fax | Cell       |
| Closest Police station      | Nawabganj                     | 100            |     | 9415903695 |
| Closest Fire Station        | Colnelganj                    | 101            |     |            |
| Closest government hospital | GSVM                          | 108            |     |            |

## 2.12- Media contact list

### (i)Radio

| Address         | Contact Person | Telephone/ Fax Number |
|-----------------|----------------|-----------------------|
| All India radio | D.S Chauhan    | 0512-2555755          |
| F.M Channels    | Garima Pathak  | 9935166983            |

### (ii)Television

| Name of The channel | Contact Person | Telephone Number |
|---------------------|----------------|------------------|
| K. News             | Chetan Gupta   | 9336814406       |
| ETV News UP         | Subham         | 9305624694       |
| DoorDarshan Lucknow | Neeraj Sachan  | 9450330410       |
| Sea News            | Piyush Mishra  | 9335607369       |
| See News            | Rajesh Agrawal | 9307658848       |
|                     |                |                  |

### (iii)Newspaper

| Name of The Paper | Frequency of Publication (daily/ weekly/ fortnightly/monthly) | Contact Person | Telephone Number |
|-------------------|---|----------------|------------------|
| Danik jagran      | Daily   | O. P. Bajpai   | 9918003150       |
| Hindustan         | Daily   | Gajendra singh | 9415039489       |

|                 |       |                  |            |
|-----------------|-------|------------------|------------|
| Aaj             | Daily | Dawood Khan      | 9335323356 |
| Times of India  | Daily | Abhinav Malhotra | 9956030000 |
| Amar Ujala      | Daily | Shaily           | 9675898674 |
| Rastriya Sahara | Daily | Pankaj Trivedi   | 9415477617 |
| Chauthi Dunia   |       | Anil Singhani    | 9415592770 |

**2.13- Records** - Some of the vital records of the zoological parks and prescribed method for storing them are as given below-

| <b>Records related to</b> | <b>Type of Record</b>                | <b>Location</b> | <b>Preservation Method</b>                | <b>Responsible Person</b>          |
|---------------------------|--------------------------------------|-----------------|---|------------------------------------|
| Fiscal management         | Budget data/<br>Monthly<br>Accounts  | Director office | Fire proof box                            | Accountant                         |
| Personnel                 | Employee Info.<br>Personnel Database | Director office | Duplicated Copies stored in Fireproof box | Head Clerk/<br>Establishment clerk |
| Inventory                 | Animal records                       | Zoo Hospital    | Duplicated (hard disk of computer)        | Zoo vet. /<br>Stenographer         |

**In case of emergency the records will be shifted as follows, if needed-**

| <b>Name of The parental record place-</b> | <b>Shifting place (vacant area with respect to records)</b> |
|---|---|
| Vet hospital                              | Chakor house  |
| Directors office                          | Lake view   |
| Range office                              | Store   |

**2.14- Key persons –**

| <b>Name/Title of Official</b>          | <b>Telephone Numbers</b>     |             |             |
|--|------------------------------|-------------|-------------|
|  | <b>Office</b>                | <b>Home</b> | <b>Cell</b> |
| Secretary Forests                      | 0522/2214836<br>0522/2238465 | 2727240     | 9453006001  |
| Special Secretary                      | 0522/2239293<br>0522/2214573 | 2308447     | 9453006018  |
| Principle chief conservator of forests | 0522/2206168                 | 2208601     | 9453006002  |
| Chief wildlife warden                  | 0522/2206584                 | 2207975     | 9453006004  |
| Member Secretary CZA Delhi             | 011/23381585                 | 23073072    |             |
| Commissioner Kanpur                    | 0512/2525441                 | 05122304304 | 9305560011  |
| Inspector General of Police            | 9454402510                   | 2534141     | 9454400101  |
| Deputy Inspector General of Police     | 0512/2536036                 | 2534142     | 9454400211  |
| District Magistrate                    | 0512/2306577                 | 2304436     | 9454417554  |
| Senior superintendent of police        | 0512/2304407                 | 2530517     | 9454400285  |
| Superintendent of police               | 0512/2304407                 | 2530517     | 9454400285  |

|   |                     |         |            |
|---|---------------------|---------|------------|
| Police Circle Inspector, nearest police station | 100<br>0512/2561370 | 2561370 | 9454403742 |
| In charge Fire Services, nearest fire station   | 100                 | 2540262 | 9454418399 |
| Divisional Forest Officer Kanpur                | 0512/2582207        | 2582207 | 9415046636 |

### 2.15- List of experts in the field of wildlife

| Experts in the field of wildlife | Name                 | Telephone Numbers |
|----------------------------------|----------------------|-------------------|
|                                  |                      | Cell              |
| Reptile expert                   | Shri Vinod kumar     | 8765974109        |
| Monkey catcher                   | Shri Raghupati singh | 8765974086        |
| Carnivore expert                 | Shri Ramesh chandra  | 8765974085        |
| Herbivore expert                 | Shri Ravindra kumar  | 8765974090        |
| Other expert                     | Shri Bharat singh    | 8765974145        |
| <b>Veterinary doctors</b>        |                      |                   |
| Dr. Dinesh Singh                 |                      | 9415130019        |
| Dr Ram Singh                     |                      | 9450158430        |
| Dr Somesh Nigam                  |                      | 9918777712        |
| Dr G.K. Singh                    |                      | 9451522696        |
| Dr R.K. Diwedi                   |                      | 9415538663        |

### 2.16- Transporters list

| Name of the transporter    | Telephone Numbers |      |            |
|----------------------------|-------------------|------|------------|
|                            | Office            | Home | Cell       |
| Punjab Carrier pvt. ltd    | -                 | -    | 8090521313 |
| Agrawal packers and movers | -                 | -    | 9389499040 |

### 2.17- SUPPLIES (food & medicine)

| Supply     | Contact Person | Telephone Number |
|------------|----------------|------------------|
| Meat       | Ahamad Noor    | 8799061058       |
| Vegetables | Ajay kumar     | 9336713248       |
| Fruits     | Sunil kumar    | 9456268597       |
| Medicines- | Ajay Mishra    | 9305513809       |
| Dry ration | Mahendr Shingh | 9336228196       |
| Fodder     | Mr.D.C. Gupta  | 9794148277       |

## 2.18 Local Response Capability.

The zoo has following facilities like control room, media center and evacuation areas for dealing with emergency situation in the zoo.

### 2.18.1 Control room-

Control room has been established in the Administrative office.

Phone no- 0512- 3226720, and 8765974100

### 2.18.2 Zoo CUG Connection.

All staff members are provided with CUG phones for better coordination of emergencies. List of numbers are annexed as annexure no 1.

### 2.18.3 - Media information system

Media Center – Deputy Director Office.

#### Media contact list-

#### (i)Radio

| Address         | Contact Person | Telephone/ Fax Number |
|-----------------|----------------|-----------------------|
| All India radio | D.S Chauhan    | 0512-2555755          |
| F.M Channels    | Garima Pathak  | 9935166983            |

#### (ii)Television

| Name of The channel | Contact Person | Telephone Number |
|---------------------|----------------|------------------|
| K. News             | Chetan Gupta   | 9336814406       |
| ETV News UP         | Subham         | 9305624694       |

#### (iii)Newspaper

| Name of The Paper | Frequency of Publication (daily/ weekly/ fortnightly/monthly) | Contact Person   | Telephone Number |
|-------------------|---|------------------|------------------|
| Danik jagran      | Daily   | O. P. Bajpai     | 9918003150       |
| Hindustan         | Daily   | Gajendra singh   | 9415039489       |
| Aaj               | Daily   | Dawood Khan      | 9335323356       |
| Times of India    | Daily   | Abhinav Malhotra | 9956030000       |
| Amar Ujala        | Daily   | Shaily           | 9675898674       |
| Rastriya Sahara   | Daily   | Pankaj Trivedi   | 9415477617       |

**2.18.4- Evacuation Assembly Areas-** Considering the size (Area-76.58 hact. and no of animals-1285) of the zoo six evacuation assembly areas has been marked. These are

- 1- Tila Lawn
- 2- Chakor house
- 3- Horse Lawn
- 4- Veterinary Hospital campus
- 5- Fish Aquarium area
- 6- Administrative Building Campus

## Chapter -3

### NATURAL DISASTERS

**Introduction-** Kanpur zoological park is located at the highlands of the Allen forest having a small lake in its eastern part which receives rain water during Monsoons from its surroundings. City sewage drains into the lake at six places. These drains bring rain water also during monsoons. The main inlet of water to the lake is at the southern part near Van Nigam depot and the over flow out let is located in the western side of the park near entrance gate. Kanpur City receives very moderate rain fall. Flood has not been reported so far in the zoo but water logging and small floods are very frequent. The enclosures located near lake are highly affected from water logging. The Kanpur zoo has no history of fire incidents but possibilities cannot be ruled out as it is located in the heart of city and surrounded by many workshops and habitations. Drought may have an impact over fodder and drinking water supply. Though Kanpur area does not fall in the seismic zone even than the civil structures are designed accordingly. The different types of disasters and its management are discussed herewith as-

**3.1 Flood** - The flood management strategy is as follows-

**3.1.1- Pre flood management-**

- Marking of previous year water logging areas.
- Cleaning of all channels
- Collection and removal of Garbage, litter and small wood from water routes and channels.
- Cleaning of all culverts and cause ways.
- Cleaning of inlets and outlets of lake and of all enclosures.
- Purchase of one motor boat and equipments
- Purchase of medicines.
- Storage of food materials at least for one week.
- Alternate arrangement for safe drinking water.
- Lifting of water from dry moats.
- The map will be maintained by the officer in charge of control room.
- Channels / culverts /cause ways will be cleared before the onset of monsoon every year. (before 15th June ) The works will be done by the Range officers In charge and monitored by Deputy Director, Director of the zoo will inspect after the completion.
- Dry and wet both types of foods will be stored. The food items will be stored as shown below-
  - 1- Green fodder - 3 days.
  - 2- Food grains in the bags- 7days
  - 3- Straw and dry thatch -3days.
  - 4- Fruits and vegetables - 7 days.
  - 5- 100 Kilogram Gud for 7 days.
  - 6- Plantation of fodder trees and grasses inside the zoo.

**(i) Carnivorous-**

1- To meet emergency 250 kg of meat will be preserved in deep freezer.

2-60-75 Eggs are required per day to meet the requirement of animals. Therefore 600 eggs will be stored every time.

**(ii) Omnivorous-**

50 kg honey.

The above food items will be stored in existing store as well as in emergency store.  
(to be constructed)

- The existing water storage system (Two overhead tanks each of capacity 50000 liters) is enough to meet the water requirement of the zoo. During the emergency only power failure matter, 50 KVA Generator set is available. The fuel of one Generator consumption is 50 lit per day. Therefore 500 lit diesels will be reserved to operate the Generator set for emergencies.
- Each enclosure is provided with water connection. In case of water logging nearby water hydrant will be opened and water will be supplied through house pipes. 300 meter length of house pipe will be purchased and kept for this purpose. Tractor with tanker will be purchased /leased for distributing water. The bowl shaped cement pot will be purchased and placed in the feeding cubical to drink water.

**The time line**

**1- Director's responsibility**

- Activate the control center before the onset of monsoon.
- Determine the possibilities of flood and its effect on Zoo visitors and on the animals of the zoo.
- Determine what staff and personnel should do during interim period.
- Authorize the use of zoo's resources by emergency teams of the zoo and local agencies.
- Augment personnel and resources as necessary.

**2-Emergency Coordinator responsibility**

- Ensure that the District authority and irrigation department has been informed.
- Ensure that the flood control system has been activated.
- Determine the extent of the flood.
- Activate the Disaster management plan.
- Coordinate with maintenance personnel of the electricity department for shutting down of Electricity supply if needed

**3-Medical Coordinator responsibility**

- Ensure that emergency medical care is provided to injured persons.
- Coordinate offsite medical assistance, ambulance calling/pickup, etc.
- Collect and compile flood-related health/ medical information for the Assessment Coordinator.

**4-Warning/Communications Coordinator responsibility**

- Activate the alarm system, if applicable.

- Maintain a primary and alternate communications system between the control room, the various work units onsite, and Local emergency authorities like police, flood control department and medical departments
- If necessary, evacuate the stranded people to the evacuation assembly area.
- Notify key officials as necessary.
- Log messages received by and dispatched from the control room

#### **5- Unit Coordinator responsibility**

- Notify persons of the need to evacuate, the stranded people the evacuation area.
- Ensure that vital records are preserved.
- Coordinate shutdown procedures as necessary.
- Direct persons to the assembly area located.
- Coordinate people in dousing of flood.
- Determine the extent of the flood and report this information to the Emergency Coordinator.

#### **6-Assessment Coordinator responsibility**

- Maintain a written record of all events that occurred during the flood, including actions taken, decisions made and by whom, personnel involved, costs.
- Collect and compile damage information.
- Report verified damage information to the Information Coordinator.
- Prepare an after-action report.

#### **7-Maintenance Coordinator responsibility**

- Shut down electricity lines or systems as necessary.
- If necessary, evacuate the stranded people to the evacuation assembly area
- Erect barricades and other traffic/access control devices to regulate movement of men and vehicles
- Re-entry recommendations are given after consulting fire personnel.
- Provide emergency repair services
- Assist with debris clearance
- Provide auxiliary power/lighting if necessary.
- Startup systems like electricity when appropriate.
- Replenish, repair, or replace emergency equipment.

#### **8 -Security Coordinator responsibility**

- Direct flood personnel to the flood area.
- Control the movement of people and vehicles
- Maintain access lanes for emergency vehicles and personnel.
- Prevent unauthorized entry into the hazardous area, control room and media Center (if established).
- Assist with flood suppression as necessary.
- Assist with the care and handling of injured persons as necessary.
- Direct media representatives to the Media Center, if established.

### **3.1.2 -During flood management –**



- For the regular watch over flood and animals more staff will be deployed.
- Zoo control room will have regular contact with District flood control room to have information about the possibilities of flood to do the needful.
- Regular monitoring over supply of food.
- The motorboat will be ready to supply food and other things.
- Outer protection wall as well as inner walls will be regularly watched. The material for boundary wall repair will be made available as soon as possible shortly when needed to repair the damaged walls .The material for repair will be collected near vet hospital, Machali Ghar and near gate of Deer safari.

### 3.1.3- Post flood management-

- Drying of dry moats.
- Pumping of flood water from wet moats and refilling it.
- Drying of enclosures.
- Spray of lime in the moats, kraal and enclosures.
- Malaria treatment.
- Security and Health audit - Monitoring of assets and health of zoo animals
- Repair of infrastructure affected during flood.
- Treatment of sick zoo animals

### 3.1.4 - Flood rapid response team-

(A) **Officer in-charge** - The director/ administrator of the zoo.

**The Director's primary responsibilities are:**

- Getting the emergency plan prepared and accepting it,
- Appointing personnel to perform emergency tasks,
- Deciding what protective actions should be taken for emergency situations.
- Authorizing the use of zoo's infrastructure,
- Liaising with local district authorities in cases of exigency for getting necessary help

(B) **Emergency Coordinator-** Assistant conservator of forest.

His duties are as follows-

- Maintaining updated flood emergency plan and testing it on a regular basis.
- Training and activating personnel to perform emergency tasks,
- Organizing and maintaining control center with adequate communications capability.
- Ensuring that vital records are identified and protected.
- Implementing protective actions.
- Implementing decisions and directives of the officer in –charge of the zoo.
- Making provisions for food and water requirements of Zoo animals

(c) **Warning / information Coordinator — The Range officer (protection)**

**Warning / information Coordinator Primary responsibilities are:-**

- Participating in emergency plan review meetings

- Maintaining communications system between the control center and the various work units' onsite, and the local authorities like police/ fire /revenue departments
- Maintaining of telephone logs
- Receiving and disseminating information about the flood situation that has occurred, or is imminent.
- Activating the onsite warning if necessary.
- Establishing communications links between control center and media center.

**(d) Unit Coordinator(s) - The unit coordinators are Foresters/ forest guards-**

**Unit Coordinator's primary responsibilities are:**

- Participating in emergency plan review meetings
- Training personnel in their respective jurisdictions.
- Identifying, before an emergency, vital things that need protection.
- Ensuring that all persons have taken the appropriate protective actions,
- coordinating shut-down of electrical connections etc during exigencies
- Helping in the smooth movement of people and vehicles.
- Assisting assessment coordinator in the assessment of losses due to disaster
- Opening of sluice gates, and getting the water outlets cleaned before/ during rainy season
- Providing safe drinking water and sanitized food to animals
- Taking measures for the speedy disposal of solid and liquid wastes
- Helping the maintenance staff in repairing of the damaged enclosures
- Helping in the capture/ trapping of escaped animals

**(e) Assessment Coordinator - The Range officer (Administration).**

**Assessment Coordinator's Primary responsibilities are:**

- Participating in emergency plan review meetings
- Collecting and compiling information on previous floods, rainfall data of the area
- Maintaining a written record of all events that occur including actions taken, decisions made and by whom, personnel involved, costs incurred, etc.
- Reporting verified damage information to the director for release to media and for sharing information with the local authorities
- Assisting with the preparation of other reports as necessary, including an after-action report.

**(f) Maintenance Coordinator - The Range officer (protection)**

The maintenance coordinator is responsible for controlling site mechanical systems and ensuring that they are shut down properly during the floods.

**Maintenance Coordinator's Primary responsibilities are-**

- Participating in emergency plan meetings
- Maintaining procedures for controlling systems, such as electrical supply points, Tube wells, Cages, Tractor, Trolleys, Squeeze cages, fire extinguishers and their spare parts etc
- Training personnel working under him
- Providing emergency repair/power services as necessary.
- Erecting barricades and other traffic/access control devices as necessary.
- Providing for debris clearance and site clean up as necessary.

- Providing damage inspection and site re-entry recommendations
- Replenishing, repairing and/or replacing emergency equipment



**Figure 1 Water inlets--requires proper maintenance**

**(g) Medical Coordinator – Vet doctors of the zoo.**

Medical Coordinators for the Zoo are the Veterinary Doctors working at the zoo vet hospital. The medical coordinator will be responsible for providing immediate care to injured Zoo animals, capturing the escaped animals; as well as the collecting and compiling of health and medical-related disaster information.

**Medical Coordinator’s Primary responsibilities are:-**

- Participating in emergency plan review meetings
- Ensuring that medical care is provided to injured animals
- Ensuring that the escaped animals are caught
- Collecting and compiling health/medical disaster information for the Assessment Coordinator.
- Coordinating the disease surveillance mechanism of the zoo etc.

**(h) Security Coordinator- Forester**

The security coordinator is responsible for controlling the movement of people and vehicles, preventing unauthorized entry into the zoo.

**Security Coordinator’s Primary responsibilities are:-**

- Participating in emergency plan review meetings
- Controlling the movement and preventing unauthorized entry of people and vehicles
- Assisting with fire suppression, if necessary.
- Directing media representatives to the Media Center.

### 3.1.5- Critical Decisions to be made in a Flood situation

| Indicator   | Decision  |
|---|---|
| <b>Water Supply</b>   |   |
| 1. Total interruption of the normal system  | Establish alternative water source  |
| 2. Poor water quality at source   | Initiate chlorination   |
| 3. Poor drinking water quality  | Recommend chlorination/boiling  |
| <b>Sewage Disposal</b>  |   |
| Total interruption of the normal system/interruption                                      | Provide alternative methods of sewage disposal  |
| <b>Solid Waste Disposal</b>   |   |
| Inadequate collection/removal and dumping site  | Obtain equipment for a) debris removal, b) reconditioning of dump and c) garbage collection |
| <b>Food Hygiene</b>   |   |
| Frequent inspections  | Provide additional personnel for food hygiene inspections                                   |
| <b>Corpses</b>  |   |
| Large number of corpses   | Initiate mass burials   |
| <b>Mosquitoes</b>   |   |
| Increase in vector population and breeding sites  | Initiate Spraying and larval control  |
| Determination of the biological life cycle  | Select best spraying time and larvicide application   |
| Sensitivity of mosquitoes, availability, cost and familiarity of personnel to insecticide | Select appropriate insecticide  |
| <b>Other Pests</b>  |   |
| Increase in number of poisonous snakes  | Stock the snake venom serum   |

### 3.2 Drought-

The Allen forest is very rich in flora. But available vegetation is not very good for fodder. The following measures will be adopted to augment fodder availability during pinch period.

- (1) Removal of rank vegetations like *Prosopis juliflora* that are encroaching all around the zoo.
- (2) Plantation of shade cum fodder species in a suitable manner.
- (3) Rising of fodder grasses as recommended by fodder research institute Jhansi.
- (4) Plantation of Climber species like Bauhinia. This will serve purpose of fodder and beautification.
- (5) Alternate electric supply through generators as there may be possibilities of power cut during drought conditions.
- (6) For the carnivorous meat shops and contractors has been identified.

### 3.3 Earthquakes

Earthquake is not very frequent in Kanpur area. All the civil structures will be constructed earthquake proof on the PWD parameters.

**Equipment needed-**

| <b>ITEMS</b>  | <b>Essentially needed</b> | <b>needed</b> |
|---|---------------------------|---------------|
| Flashlight/ Torch lights and spare batteries                        | √                         | √             |
| Rubber boots  | √                         | √             |
| Drinking water bottles  | √                         | √             |
| First aid kit   | √                         | √             |
| Protective gloves   | √                         | √             |
| Helmet  | √                         | √             |
| Measuring tape  | √                         | √             |
| Disposable masks  | √                         | √             |
| Sealing tape and string   | √                         | √             |
| Residual chlorine/ Chlorine tablets and pH testing equipment        | √                         | √             |
| Shovels   | √                         | √             |
| Pick axe  | √                         | √             |
| Generator with sufficient fuel                                      | √                         | √             |
| Water quality field testing kits                                    | √                         | √             |
| Tranquilizing gun with drugs  | √                         | √             |
| Welding machine with sufficient welding rods                        | √                         | √             |
| Ropes and nets  | √                         | √             |
| Cages   | √                         | √             |
| Sufficient larvicides, insecticides and their delivery systems      | √                         | √             |
| Construction and repair materials like Cement, iron rods, sand etc. | √                         | √             |
| Sandbags  | √                         | √             |
| Gas cutters   |                           | √             |
| Earth moving equipment  |                           | √             |

## Chapter -4

### FIRE

**Introduction**-Fire is not very frequent in the Allen forest but the possibilities of catching fire in zoo cannot be ruled out.

#### 4.1 Possible sources of forest fire-

- Short circuiting in electric lines spreading all over the zoo.
- Jump fire from outside the zoo as many habitations and workshops are located around the zoo.
- Fire due to wrong practices by the visitors.

#### 4.2 Fire management-

- Clearing fire lines along the roads, Zoo rail path and litter so collect will be deposited in the compost pits there only.
- Removal of fire hazards from the enclosures and moats.
- Pre fire seasons fire management works.
- Display of information regarding do's and don'ts
- Clearing rank vegetations along the roads.
- Purchase fire fighting tools like Bucket, fire rack, axe, spade, fire extinguishers water storage tanks etc.
- Lighting fire in the zoo will be strictly prohibited in any case except burning of carcass.
- At present Public address system is available in the zoo. Siren will be installed at two places one near hospital and another in the residential colony of the zoo. The control room in charge will operate the siren at the time of emergency declared only by an order issued by the Director.
- Possibility of catching fire in zoo will be brought to zero level by having 5 meter wide fire lines on the both sides of road visitor circulation, path service road and zoo railway line. The fire lines will be cleared before 15 March every year. Control burning will be strictly avoided. Litter will be collected and put in the compost pits. The fire lines will regularly be maintained from 15 March to 30th June.
- The External power lines will be cut by the local Sub Station only on the request of Emergency coordinator.
- In case of emergency auxiliary power supply will be provided by two generator sets of capacity 50.0 KVA and 5.0 KVA available in the Zoo. One Mobile Gen set of 20 KVA capacity mounted on trolley will be purchased.
- 50 liter diesel is required per day to operate all the three gen sets. A reserve stock of 500 litre of diesel will be stored in a suitable container in a mini store room located inside the campus of vet hospital.
- Three wire cutters are available in the zoo. Nine more wire cutters will be purchased for use in emergency.
- Ladders of different size, hard hats, torches, boots, etc. will be purchased in sufficient number and kept for ready use during emergency.

#### 4.3- Plan for dealing with Fire accidents

##### (a) - Notifying and Warning

- Whoever comes across Fire/ explosion with in the premises of Zoo should notify to the zoo authorities

- The warning may be by siren, ringing bell, etc.
- The first person spotting a fire should activate the alarm system and will remain there till rescue team reaches the spot. He will keep on updating the authorities about the intensity of the fire and precautionary measures taken.

**(b)-General Response**

**Regarding People**

- The Director will fully activate the control center may be nearer to the accident site.
- Personnel should evacuate people especially women and children from the accident place to the evacuation assembly area upon hearing the alarm
- Small or isolated fires should be immediately extinguished
- Unit Coordinators will check their work areas to ensure that all persons have taken the appropriate action.
- Unit Coordinators will account for their personnel at the evacuation assembly area and report this information to the Emergency Coordinator.
- The Emergency Coordinator will authorize reentry into the site/facility after consulting the fire personnel

**Regarding Zoo animals**

- Fire lines be cut near the animal enclosures
- Adequate supply of water for sprinkling on the animals and for dousing the fire be made available
- Measures be taken that the crowns of the trees of the animal enclosures are not caught fire. It is very much necessary in the Zoos where there is a lot of vegetation. As a precautionary measure lopping of the trees should be done at regular intervals.
- Check lists of various teams are annexed as annexure no-1
- Unit Coordinators will check their work areas to ensure that all animal keepers have taken appropriate action

**4.4- Check list for emergency Response**

**1- Director's Checklist**

- Activate the control center
- Determine the extent of the fire and its effect on Zoo visitors and on the animals of the zoo
- Determine what staff and personnel should do during interim period.
- Authorize the use of zoo's resources by emergency teams of the zoo and local agencies.
- Coordinate with the local authorities
- Augment personnel and resources as necessary.

**2-Emergency Coordinator Checklist**

- Ensure that the Fire Department has been informed
- Ensure that the fire alarm system has been activated.
- Determine the extent of the fire
- Activate the Disaster management plan.
- Coordinate with maintenance personnel of the electricity department for shutting down of electricity supply

**3-Medical Coordinator Checklist**

- Ensure that emergency medical care is provided to injured persons.
- Coordinate offsite medical assistance, ambulance calling/pickup, etc.

- Collect and compile fire/explosion-related health/ medical information for the Assessment Coordinator.

#### **4-Warning/Communications Coordinator Checklist**

- Activate the fire alarm system, if applicable.
- Maintain a primary and alternate communications system between the control room, the various work units onsite, and Local emergency authorities like police, fire and medical departments
- If necessary, evacuate the stranded people to the evacuation assembly area.
- Notify key officials as necessary.
- Log messages received by and dispatched from the control room

#### **5- Unit Coordinator Checklist**

- Notify persons of the need to evacuate.
- Ensure that vital records are preserved.
- Coordinate shutdown procedures as necessary.
- Direct persons to the assembly area located.
- Coordinate people in dousing of fires
- Determine the extent of the fire or explosion and report this information to the Emergency Coordinator.

#### **6-Assessment Coordinator Checklist**

- If necessary, evacuate the stranded people to the evacuation assembly area.
- Maintain a written record of all events that occurred during the fire, including actions taken, decisions made and by whom, personnel involved, costs
- Collect and compile damage information.
- Report verified damage information to the Information Coordinator.
- Prepare an after-action report.

#### **7-Maintenance Coordinator Checklist**

- 1-Shut down electricity lines or systems as necessary.
- 2-If necessary, evacuate the stranded people to the evacuation assembly area
- 3-Erect barricades and other traffic/access control devices to regulate movement of men and vehicles
- 4-Re-entry recommendations are given after consulting fire personnel.
- 5-Provide emergency repair services
- 6-Assist with debris clearance
- 7-Provide auxiliary power/lighting if necessary.
- 8-Start electricity supply and other systems at appropriate time.
- 9-Replenish, repair, or replace emergency equipment.

#### **8 -Security Coordinator Checklist**

- Direct fire personnel to the fire scene.
- Control the movement of people and vehicles
- Maintain access lanes for emergency vehicles and personnel.
- Prevent unauthorized entry into the hazardous area, control room and media Center (if established).
- Assist with fire suppression as necessary.
- Assist with the care and handling of injured persons as necessary.
- Direct media representatives to the Media Center, if established.





**Figure 2 Dead animals- a potent health threat to inmates of the zoo**

**4.5- Equipment required for dealing with fire**

| <b>Items</b>   | <b>Essentially needed</b> | <b>needed</b> | <b>What the zoo has with it</b> |
|--|---------------------------|---------------|---------------------------------|
| Rubber boots   | √                         | -             | <b>X</b>                        |
| Drinking water bottles   | √                         | -             | <b>X</b>                        |
| First aid kit  | √                         | -             | √                               |
| Protective gloves  | √                         | -             | <b>X</b>                        |
| Helmet   | √                         | -             | <b>X</b>                        |
| Measuring tape   | √                         | -             | √                               |
| Shovels  | √                         | -             | <b>X</b>                        |
| Pick axe   | √                         | -             | <b>x</b>                        |
| Tranquilizing gun with drugs                                       | √                         | -             | √                               |
| Welding machine with sufficient welding rods                       | √                         | -             | <b>X</b>                        |
| Ropes and nets   | √                         | -             | <b>X</b>                        |
| Cages  | √                         | -             | <b>X</b>                        |
| Construction and repair materials like Cement, iron rods, sand etc | -                         | √             | <b>X</b>                        |
| Gas cutters  | -                         | √             | <b>X</b>                        |
| Earth moving equipment   | -                         | √             | <b>X</b>                        |
| Fire proof dress   |                           | √             |                                 |
| Goggles  | √                         |               |                                 |

## Chapter -5

### CIVIL DISTURBANCE PROCEDURES

**5.1- Introduction-** During Civil Disturbances, it is very important that arrangements may be made to send the zoo visitors and the staff safely to safer areas. As the zoo is visited, largely by women and children evacuating them to safe areas becomes more imminent as panic may result in further injuries if people attempt to evacuate in a disorganized manner. Civil disturbance largely affect the supply of food and water to the zoo animals. The possible civil disturbances are as -

- 1- Riots,
- 2- Looting,
- 3- Curfew
- 4- Other forms of civil disturbance

#### **5.2 - Plan for Evacuating Zoo visitors and Zoo personnel**

##### **Notification and Warning**

As and when information about a major civil disturbance-affecting the Zoo is received from the Police Department / radio and television; personnel will be given instructions about the incidences of Civil Disturbances

##### **General Response**

- The Emergency Coordinator will fully activate the control room to monitor conditions and determine appropriate response actions.
- The Emergency Coordinator will assess the situation and determine what actions are needed to protect Zoo visitors and Zoo personnel. The type of protective actions taken will depend upon several factors, including the size, type, and location of the disturbance, and the level of violence and property destruction involved.
- Assistance from **law enforcement personnel** will be requested
- The Emergency Coordinator will brief Unit Coordinators of the situation as soon as possible and inform them of actions to be taken. Unit Coordinators will brief persons within their work areas.
- Zoo personnel may be released early as deemed appropriate and the Zoo guests will be asked to leave the Zoo immediately.
- If conditions do not warrant or allow the early release of zoo personnel and Zoo guests, all points of entry into the Zoo will be secured and access should be limited to those persons transacting legitimate business.
- Assistance from law enforcement personnel will be requested as deemed necessary to prevent unauthorized access into the zoo

#### **5.3- Check list for emergency Response**

##### **1- Director Checklist**

- Activate control room
- Consider releasing personnel early if conditions warrant and the Zoo guests should be asked to leave the Zoo immediately
- Authorize the use of organization resources by Emergency Team and local response agencies like Police/Fire service personnel.

##### **2- Emergency Coordinator Checklist**

- Activate the disaster management plan.
- Notify Unit Coordinators of the situation.

- If necessary notify Police Department
- Ensure that all points of entry into the zoo are secured.
- Ensure that vital facilities, operations, equipment, and records are secured.
- Augment personnel and resources as necessary.
- Ensure that work areas are checked for possible damage as a result of the disturbance.

### **3- Unit Coordinator Checklist**

- Inform zoo personnel of their early release. Check work areas to ensure that everyone has left as per instructions.
- Ensure that vital records, equipment, animals etc are secured.
- Assist Police personnel
- As conditions permit, inspect work area for damage from the disturbance. Report any damage to the Emergency Coordinator in the control room.

### **4- Emergency Assessment Coordinator Checklist**

- Report to the control room and maintain a written record of all events that occur related to the civil disturbance, including actions taken, decisions made and by whom, personnel involved, costs incurred, etc. If possible, a photographic or video record should be arranged.
- As necessary, collect and compile damage information
- Report verified damage information to the local Police and to the Information Coordinator for and to the officer in-charge of the zoo
- Prepare an after-action report.

### **5- Warning/Communications Coordinator Checklist**

- Report to the control room and maintain a primary and alternate communications system between the control room, the various work units onsite, and with the agencies like Police
- Notify key officials about the crisis
- Log messages received by and dispatched from the control room

### **6- Information Coordinator Checklist**

Report to the control room and coordinate the activities listed below.

- Obtain verified information about any damage incurred as a result of the disturbance to the Zoo.
- Prepare and issue news releases and submit to the officer in-charge of the zoo
- Establish a Media Center (if necessary).
- If the Zoo is attacked then conduct media tours of the site (if damage was incurred).

### **7- Medical Coordinator Checklist**

Report to the control room and coordinate the activities listed below.

- Ensure that emergency medical care is provided to injured persons.
- Coordinate medical assistance, ambulance calling/pickup, etc., (if necessary).
- Collect and compile disturbance-related health/medical information for the Assessment Coordinator.

### **8- Maintenance Coordinator Checklist**

Report to the control room and coordinate the activities listed below.

- Erect barricades and other traffic/access control devices
- Assist with securing entry points as necessary.
- Provide auxiliary power/lighting as necessary.
- Provide emergency repair services as necessary.

- Inspect the site for possible damage (if the Zoo is attacked).
- Assist with debris clearance and site cleanup as necessary (if the Zoo is attacked).
- Replenish, repair or replace emergency equipment

#### 9- Security Coordinator Checklist

Report to the control room and coordinate the activities listed below.

- Secure entry points to the site as necessary.
- Prevent unauthorized entry into the zoo.
- Control the movement of people and vehicles
- Assist with the care and handling of injured persons as necessary.
- Assist with fire suppression as necessary.
- Secure vital facilities, resources, equipment, and operations.

#### 5.4 - Equipment required for dealing with civil disturbances

| Items  | Essentially needed | needed | What the zoo has with it |
|--|--------------------|--------|--------------------------|
| Rubber boots   | √                  | -      | X                        |
| Alarm systems  | √                  | -      | X                        |
| Public address system  | √                  | -      | √                        |
| Radio communications ( walkie - talkie)                            | √                  | -      | X                        |
| Protective gloves  | √                  | -      | X                        |
| Helmet   | √                  | -      | X                        |
| Measuring tape   | √                  | -      | X                        |
| Shovels  | √                  | -      | √                        |
| Pick axe   | √                  | -      | X                        |
| Tranquilizing gun with drugs                                       | √                  | -      | √                        |
| Welding machine with sufficient welding rods                       | √                  | -      | √                        |
| Ropes and nets   | √                  | -      | √                        |
| Cages  | -                  | √      | √                        |
| Construction and repair materials like Cement, iron rods, sand etc | -                  | √      | √                        |
| Gas cutters  | -                  | √      | X                        |
| Earth moving equipment   | √                  | -      | X                        |
| Fire proof dress   | √                  | -      | X                        |
| Goggles  | √                  | -      | X                        |

## Chapter -6

# ANIMAL DISEASE EMERGENCIES AND PREPAREDNESS OF THE ZOO

**6.1 Introduction-** The captive animals of the zoos are subjected to a number of diseases of viral, bacterial, rickettsia and mycoplasma origin. Some of these diseases are dreadful and occurrence of these diseases amongst the captive populations of the zoo may have disastrous consequences, like

- Serious losses to the zoo by the way of loss of valuable genetic materials;
- Increased concerns of animal diseases transmitting to humans (i.e. zoonotic);
- Cause unnecessary pain and suffering to the captive animals

In order to save the zoo animals from the diseases, animal tissues will be regularly collected and sent for pathology and histopathology examinations. The data collected so will be kept on records. The disease occurrence and spread can be minimized and controlled by regular monitoring of health, disease surveillance and risk analysis.

### 6-2 Disease surveillance

Disease surveillance should be an integral and key component of the zoo. This is important for early warning of diseases, planning and monitoring of disease control and provision of sound animal health. Disease surveillance can be categorized into Passive surveillance and Active surveillance. The details are as follows-

#### 6.2.1 Passive disease surveillance

Passive disease surveillance will be done as –

- 1- Reports from the personnel of the zoo.
- 2- Reports from the press.
- 3- Reports from laboratory of the periodic targeted serological investigations and that of urine, and fecal samples of the zoo animals (mostly related to deaths of feral animals of the zoo),
- 4- Detailed investigation report from post mortem.
- 5- Periodical inspections of the food sources.

#### 6.2.2 Active disease surveillance

- 1- From the direct observation of vet doctors.
- 2- From the pm report of dead animal.
- 3- Daily observation by animal care staff of each animal for clinical signs of disease and method of reporting abnormalities helps in early veterinary investigation

#### 6.2.3 Risk Analysis-

- 1- Regular watch over sudden death of animals.
- 2- Careful covering of carcass of the body and sending it to lab or vet hospital for investigation.
- 3- Receiving of report, control of disease accordingly.
- 4- Data collection and its analysis.

### **6.3 Burial -.**

Burial ground has been identified. All the dead animals will be either buried or burned on the burial ground only.

### **6.4 Pest control-**

#### **6.4.1-Rodents**

- 1- Rat control consists primarily of gassing rodent burrows with hydrogen phosphate pellets and baiting perimeters of buildings and enclosures
- 2- Mice are a bit more difficult to control in a zoological setting. Traps will be used for mouse control in areas where baiting is unacceptable especially in bird houses. Watering the rat holes.
- 3- Population of rodents depends upon the seed produced in the zoo forest. A good seed year in bamboos also has an impact over rodent's population growth. To control rodent's population in zoo all the mature bamboo clump will be cut flush to the ground to avoid seeding.
- 4- Trees of species like *Holoptelia intergrifolia* (Papri), *Syzygium cumini* (Jamun), *Acacia catechu* (Khair), *Azadiracta indica* (Neem), *Dalbergia sissoo* etc. are abundant in the zoo. They produce profuse seed every year. Therefore sufficient food materials become available to the rodents that favor their population growth and its predators (Snakes).The fallen seeds will be collected every year at the time of fall and burnt safely.
- 5- Dead rats and mice will be burnt in the burial ground.

#### **6.4.2-Free-Flying Birds**

- 1- Elimination of nesting and roosting sites.
- 2- Attention to sanitation and proper storage and removal of refuse and solid waste,
- 3- The populations of birds of prey will notably be decrease with proper sanitation of the enclosures of the zoo. The problem to a greater extent is addressed by providing food to the inmates of the zoos within their feeding cells.

#### **6.4.3-Controlling Monkeys**

For controlling the monkey menace the following actions is proposed to be taken

- 1- Visitors will not be allowed to feed the monkeys
- 2- Feeding the animals (esp. the herbivores) will be strictly in the feeding cells
- 3- Monkeys will be captured and released in other forest areas. For catching specialized Monkey traps have been prepared.

#### **6.4.4-Controlling Dogs**

- 1- Regularly check the boundary wall. (alternate day).
- 2- Chowkidars are asked for look out for the stray dogs.
- 3- Dogs that enter the Zoo will be killed at once.
- 4- The main gate will always be guarded by gate man.
- 5- Animal Birth Control measures will be taken through Nagar Nigam

**6.5-** The commonly occurring disease among the wild animals is being annexed as Annexure No3.

**6.6-** Zoo hygiene and zoo rules – The relevant part is annexed as Annexure No-4

**6.7-** Pest control works will be done every month.

## Chapter -7

# ESCAPE OF ANIMALS FROM ENCLOSURES AND ENSURING PUBLIC SAFETY

**7.1 Introduction** - Kanpur Zoological Park houses more than 1200 animals. There is always a chance that animals can escape from their enclosures. This chapter is focused on the possibilities of escaping animals from their enclosures and safe evacuation of people from zoo in the event of an animal escaping from the enclosure. The possibilities of escape of animals from their enclosures can be minimized by proper maintenance of enclosure and continuous watch over them and necessary precaution being taken. Accordingly the causes of escape, precaution to check them and protocol to be followed during escape are illustrated here.

### 7.2 Causes of escape

Causes resulting to the escape of animals –

1. Unclosed or partial closing of doors.
2. Improper lock.
3. Breaking of moat wall.
4. Soil erosion in the moat.
5. Breaking of fence in the enclosures.
6. Fallen trunk of trees.
7. Leaning trees and drooping branches of trees,
8. Water filling in the dry moats.
9. Excess water in the water filled moat.
10. Weak and unstable case

**7.3 Precautions** – The following precautions are taken to check escape of animals from enclosures-

1. All the keepers will ensure proper shutting of doors in their respecting cells and enclosures.
2. Keepers will ensure that all the lock is properly locked.
3. Breaking of moat wall may cause soil erosion. As a result eroded soil makes a high land to jump out animals. Keepers will keep watch over broken wall of respecting moat. Whenever such situation comes out immediately soil will be removed and wall will be repaired.
4. Opening in the fence panel may cause escape of animal keeper will always keep watch on the openings. He will repair immediately the mesh and inform to range officer to repair largely.
5. In any condition no trunk of fallen trees will be allowed to remain inside the enclosure. Fallen trunks of the trees will be removed immediately.
6. There will be regular lopping of trees from enclosures. Because hanging branches allows animals to jump out. Especially in the case of primates.
7. Water filled in dry moat will be pumped out immediately.
8. Excess water from wet moats will also be pump out.
9. Design of Gates, Doors & Slides is of utmost importance these must be as follows.
10. Gates or doors of an enclosure must open inwards to the enclosure.
11. If an entrance to an enclosure is a safety entrance through successive gates or doors, they must open inwards towards the enclosure.

12. A gate, door or slide giving entrance to an enclosure must be so designed that an animal in the enclosure cannot lift the gate or door off its hinges or a slide off its tracks; or unfasten the security device such as locks

#### **7.4 - Controlling escape of animals**

1. The perimeter boundary of the Zoo has an entry and an exit point. No other entry or exit point will be provided.
2. The chaukidars will be engaged to watch upon ill social elements.
3. All the possible escape points such as doors of the enclosures, gate of the deer safari, entrance and exit point, through opening of the Nalah, will be marked and chaukidars kept on duty.
4. Trees and branches near the enclosure will be removed to prevent escape through the trees
5. All animal furrows along the perimeter boundary and enclosure will be plugged.
6. All possible escape routes will be checked by the keepers and chaukidars regularly.
7. Proper signage will be put on every road, park, canteen and water points, enclosure etc.

**7.5 First aid** - Chakor Prechha Ghrah will be made a first aid centre, all the necessary media and equipment will be provided there. The doctor from the nearest hospital will be called upon during emergency. For this address and phone no of the hospital is listed in the plan.



**Figure 3 Fallen trees --a possible escape route**



**List of Equipment needed:**

| SN | Captive animals   | Minimal requirement  |
|----|---|--|
| 1  | Large carnivores<br>(10 items)                                    | 1-Nets,<br>2-pole syringes,<br>3- Snare,<br>4-Projectile guns and darts,<br>5- Blow dart equipment,<br>6- Crates,<br>7-Squeeze cages etc<br>8-Ladder<br>9-Rope<br>10-Gloves, |
| 2  | Small carnivores<br>(10 items)                                    | 1-Nets,<br>2-pole syringes,<br>3- Snare,<br>4-Projectile guns and darts,<br>5- Blow dart equipment,<br>6- Crates,<br>7-Squeeze cages etc<br>8-Ladder<br>9-Rope<br>10-Gloves, |
| 3  | Hoofed stock<br>(3items)  | Projectile guns and darts,<br>blow dart equipment,<br>crates .   |
| 4  | Small mammals<br>(e.g. primates) (09<br>items).                   | Nets,<br>gloves,<br>pole syringe,<br>snares,<br>plastic tubes,<br>blow dart equipment,<br>crates,<br>squeeze cage.   |
| 5  | Large primates<br>like chimpanzee,<br>orangutans etc (5<br>items) | Nets,<br>Gloves<br>, pole syringe,<br>projectile guns and darts,<br>blow dart equipment  |
| 6  | Birds<br>(3 items)  | Nets,<br>gloves,<br>towels,<br>pole syringe  |
| 7  | Reptiles (8items)   | Nets,<br>gloves,<br>snares,<br>plastic shield,<br>bags,  |

|   |                       |   |
|---|-----------------------|---|
|   |                       | plastic tubes,<br>snake tong,<br>Snake hook .   |
| 8 | Reptiles<br>(7 items) | Nets,<br>gloves,<br>snares,<br>bags,<br>plastic tubes,<br>snake tongs,<br>snake hooks . |

- The zoo is to be made well equipped to deal with the emergency. The necessary equipment's will be purchased as per the availability of budget.
- Readiness of the equipment's-
- All the cages and snares/traps will be kept painted, cleaned and oiled.
- Tranquilization kit and medicines will keep ready by zoo doctor.
- The equipment's will be examined every month by the Vet doctor/ RO's and Deputy Director of Zoo and a certificate will be issued regarding fitness of equipment and readiness to meet emergency.
- The exhibit area of all the enclosures will be flooded once in a month to check furrows/ tunnels made by the housing animal or free moving animals (reptiles and rodents etc.)
- Sterilizing enclosures before and after Monsoon.

## Name wise list about the members of the emergency team

## 1. निदेशक कानपुर प्राणि उद्यान कानपुर

| दल के लीडर                  | दल के लीडर का पद             | दल के सहायक  |
|-----------------------------|------------------------------|--|
| श्री के० थामस,<br>आई०एफ०एस० | मुख्य वन<br>संरक्षक / निदेशक | <ol style="list-style-type: none"> <li>1. श्री आर०के० सिंह, पशुचिकित्सक,</li> <li>2. श्री यू०सी० श्रीवास्तव ---"---</li> <li>3. श्री वाई०पी०शुक्ला सहायक वन संरक्षक</li> <li>4. श्री एम०के०शुक्ला क्षेत्रीय वनाधिकारी</li> <li>5. श्री के० के० मिश्रा क्षेत्रीय वनाधिकारी</li> <li>6. समस्त स्टाफ कानपुर प्राणि उद्यान कानपुर</li> </ol> |

## 2. अपातकालीन समन्वयक

| दल के लीडर               | दल के लीडर का पद | दल के सहायक   |
|--------------------------|------------------|---|
| श्री वाई० पी०<br>शुक्ला, | सहायक वन संरक्षक | <ol style="list-style-type: none"> <li>1. श्री शत्रुघ्न सिंह इकाई समन्वयक, -1</li> <li>2. श्री रामपाल सिंह इकाई समन्वयक,-2</li> <li>3. श्री विशाल सोनकर इकाई समन्वयक-3</li> <li>4. श्री राजीव कुमार गौतम इकाई समन्वयक-4</li> <li>5. श्री अम्बिका पाण्डेय इकाई समन्वयक-5</li> <li>6. श्री राजेन्द्र कुमार इकाई समन्वयक-6</li> </ol> <p><b>चौकीदार,</b></p> <ol style="list-style-type: none"> <li>1. श्री भृगुनाथ यादव</li> <li>2. श्री मुद्रिका प्रसाद</li> <li>3. श्री सोनपाल</li> <li>4. श्री रामदीन प्रजापति</li> <li>5. श्री सोने लाल</li> <li>6. श्री रामअजोर</li> <li>7. श्री फूल चन्द्र</li> <li>8. श्री शंकर</li> <li>9. श्री राम आसरे</li> <li>10. श्री चन्द्रदेव</li> </ol> <p><b>माली</b></p> <ol style="list-style-type: none"> <li>1. श्री उमाशंकर</li> <li>2. श्री रामआसरे</li> <li>3. श्री उमाकान्त</li> <li>4. श्री छोटेलाल</li> <li>5. श्री सोनेलाल</li> <li>6. श्रीमती सुधरा देवी</li> <li>7. श्री राम जीवन</li> <li>8. श्रीमती मुन्नी देवी</li> <li>9. श्री जयपाल सिंह</li> <li>10. श्रीमती तारा सिंह</li> <li>11. श्री अमृत लाल</li> </ol> <p><b>आफिस स्टाफ</b></p> <ol style="list-style-type: none"> <li>1. श्री पी०डी० कुशवाहा मानचित्रकार</li> <li>2. श्री मुहम्मद अली, वरिष्ठ लिपिक</li> </ol> |

### 3. पशुचिकित्सक

| दल के लीडर                            | दल के लीडर का पद  | दल के सहायक   |
|---------------------------------------|-------------------|---|
| डा0 आर0 के0 सिंह<br>पशुचिकित्साधिकारी | पशुचिकित्साधिकारी | 1. श्री राधाकृष्ण राठौर<br>2. श्री रामेश्वर प्रजापति<br>3. श्री साहब लाल<br>4. श्री प्रताप सिंह |

### 4. चेतावनी समन्वयक

|                                   |                      |   |
|-----------------------------------|----------------------|---|
| एम0 के0 शुक्ला<br>चेतावनी समन्वयक | क्षेत्रीय वन अधिकारी | <b>स्टैनोग्राफर</b><br>1. श्री विश्वजीत सिंह तोमर<br><b>वरिष्ठ सहायक</b><br>1. श्री चन्द्रपाल<br><b>आदेशपालक</b><br>1. श्री राम औतार यादव<br>2. श्री मुकेश गौतम<br>3. श्री नीरज कुमार |
|-----------------------------------|----------------------|---|

### 5. मूल्यांकन समन्वयक

|                                     |                      |  |
|-------------------------------------|----------------------|--|
| के0 के0 मिश्रा<br>मूल्यांकन समन्वयक | क्षेत्रीय वन अधिकारी | <b>स्टैनोग्राफर</b><br>1. श्री विश्वजीत सिंह तोमर<br><b>वरिष्ठ सहायक / लिपिक</b><br>1. श्री चन्द्रपाल<br>2. श्री श्रीराम<br><b>आदेशपालक</b><br>1. श्री राम औतार यादव<br>2. श्री मुकेश गौतम<br>3. श्री नीरज कुमार |
|-------------------------------------|----------------------|--|

### 6. अनुरक्षण समन्वयक

|                                |          |  |
|--------------------------------|----------|--|
| राजीव गौतम अनुरक्षण<br>समन्वयक | वन दरोगा | <b>कारपेन्टर, – दैनिक पारिश्रमिक पर</b><br><b>राज मिस्त्री, – तारा चन्द्र</b><br><b>बिजली मैन, – दैनिक पारिश्रमिक पर</b><br><b>ट्यूबेल आपरेटर, – श्री चन्द्र प्रकाश मिश्रा,</b><br><b>श्री संजय कुमार कुरील</b><br><b>टिकट चेकर – श्रीमती गीता</b> |
|--------------------------------|----------|--|

### 7. सुरक्षा समन्वयक

|                               |          |   |
|-------------------------------|----------|---|
| संजय भारती<br>सुरक्षा समन्वयक | वन दरोगा | <b>मजदूर – 8 मजदूर दैनिक पारिश्रमिक पर</b><br><b>सुरक्षा गार्ड – 8 सुरक्षा गार्ड दैनिक पारिश्रमिक पर</b><br><b>पी0आर0डी0 जवान –20</b><br><b>चौकीदार–</b><br>1. श्री राम चन्द्र<br>2. श्री श्याम बाबू<br>3. श्री विजय नारायण<br>4. श्री कुन्दन<br>5. श्री कृष्ण चन्द्र<br>6. श्री राम मिश्रा |
|-------------------------------|----------|---|

| सी० यू० जी० 2013 |   |            |               |
|------------------|---|------------|---------------|
| क्र०सं०          | कर्मचारी का नाम   | मोबाइल नं० | सी०यू०जी० नं० |
| 1                | कन्ट्रोल रूम  | 8765974100 | 274100        |
| 2                | श्री के० थामस ,वनसंरक्षक /निदेशक, कानपुर प्राणि उद्यान, कानपुर    | 8765974101 | 274101        |
| 3                | श्री वाई० पी० शुक्ला ,उप वन संरक्षक, कानपुर प्राणि उद्यान, कानपुर | 8765974103 | 274103        |
| 4                | डा० राकेश कुमार सिंह पशुचिकित्साधिकारी                            | 8765974102 | 274102        |
| 5                | डा० यू० सी० श्रीवास्तव पशुचिकित्साधिकारी                          | 8765974106 | 274106        |
| 6                | श्री के० के० मिश्रा क्षेत्रीय वन अधिकारी                          | 8765974104 | 274104        |
| 7                | श्री एम० के० शुक्ला क्षेत्रीय वन अधिकारी                          | 8765974105 | 274105        |
| 8                | श्री जयप्रकाश अवरथी वन दरोगा                                      | 8765974058 | 274058        |
| 9                | श्री राजीव कुमार गौतम वन दरोगा                                    | 8765974059 | 274059        |
| 10               | श्री अम्बिका पाण्डेय वन दरोगा                                     | 8765974060 | 274060        |
| 11               | श्री संजय भारती वन दरोगा  | 8765974061 | 274061        |
| 12               | श्री रामपाल सिंह वन्य जीव रक्षक                                   | 8765974062 | 274062        |
| 13               | श्री उदय भान कमल व०ज०र०   | 8765974063 | 274063        |
| 14               | श्री शत्रुघ्न सिंह, व०ज०र०  | 8765974064 | 274064        |
| 15               | श्री विनोद कुमार व०ज०र०   | 8765974065 | 274065        |
| 16               | श्री राजेन्द्र सिंह वन रक्षक                                      | 8765974066 | 274066        |
| 17               | श्री विशाल सोनकर वन रक्षक   | 8765974067 | 274067        |
| 18               | श्री पी० डी० कुशावाहा मानचित्रकार                                 | 8765974068 | 274068        |
| 19               | श्री चन्द्रपाल व० लि०   | 8765974069 | 274069        |
| 20               | श्री श्रीराम व० लि०   | 8765974070 | 274070        |
| 21               | श्री मु० अली व० लि०   | 8765974071 | 274071        |
| 22               | श्री नरेन्द्र सिंह व० लि०   | 8765974072 | 274072        |
| 23               | श्रीमती माधुरी दीक्षित  | 8765974073 | 274073        |
| 24               | श्री विश्वजीत सिंह तोमर कनिष्ठ लिपिक                              | 8765974074 | 274074        |
| 25               | श्री सुनील कुमार शर्मा, कनिष्ठ लिपिक                              | 8765974075 | 274075        |
| 26               | श्री राम अवतार, आदेश पालक   | 8765974076 | 274076        |
| 27               | श्री रमा शंकर , आदेश पालक   | 8765974077 | 274077        |
| 28               | श्री मुकेश गौतम, आदेश पालक  | 8765974078 | 274078        |
| 29               | श्री नीरज कुमार कार्यालय चपरासी                                   | 8765974079 | 274079        |
| 30               | श्री के० सी० काण्डपाल, हेड कीपर                                   | 8765974080 | 274080        |
| 31               | श्री शिव नारायण , कीपर  | 8765974081 | 274081        |
| 32               | श्री परशुराम यादव , कीपर  | 8765974082 | 274082        |
| 33               | श्री उदय भान सिंह , कीपर  | 8765974083 | 274083        |
| 34               | श्री देवेन्द्र नाथ सिंह , कीपर                                    | 8765974084 | 274084        |

|    |  |            |        |
|----|--|------------|--------|
| 35 | श्री रमेश चन्द्र कीपर                      | 8765974085 | 274085 |
| 36 | श्री रघुपति सिंह , कीपर                    | 8765974086 | 274086 |
| 37 | श्री राम बरन शर्मा , कीपर                  | 8765974087 | 274087 |
| 38 | श्री साहब लाल, कीपर                        | 8765974088 | 274088 |
| 39 | श्री बृजेन्द्र कुमार, कीपर                 | 8765974089 | 274089 |
| 40 | श्री रवीन्द्र यादव , कीपर                  | 8765974090 | 274090 |
| 41 | श्री माधवानन्द काण्डपाल कीपर               | 8765974091 | 274091 |
| 42 | श्री करण सिंह कीपर                         | 8765974092 | 274092 |
| 43 | श्री बृजेन्द्र सिंह , बुकिंग क्लर्क        | 8765974093 | 274093 |
| 44 | श्री लाखन सिंह बुकिंग क्लर्क               | 8765974094 | 274094 |
| 45 | श्री बृजेश कुमार कमल , बुकिंग क्लर्क       | 8765974095 | 274095 |
| 46 | श्री चन्द्र प्रकाश मिश्रा, टयूब बेल आपरेटर | 8765974096 | 274096 |
| 47 | श्री संजय कुमार कुरील नलकूप चालक           | 8765974097 | 274097 |
| 48 | श्री प्रताप सिंह, टिकट चेकर                | 8765974098 | 274098 |
| 49 | श्री राम शंकर, सफाई नायक                   | 8765974052 | 274052 |
| 50 | श्री दीवारी लाल , सफाई नायक                | 8765974053 | 274053 |
| 51 | श्री छोटे लाल , सफाई नायक                  | 8765974054 | 274054 |
| 52 | श्री किशन लाल , सफाई नायक                  | 8765974055 | 274055 |
| 53 | श्री मसी चरन प्रथम सफाई, नायक              | 8765974056 | 274056 |
| 54 | श्री मसी चरन द्वितीय सफाई, नायक            | 8765974057 | 274057 |
| 55 | श्रीमती कमला देवी, सफाई नायक               | 8765974099 | 274099 |
| 56 | श्रीमती गीता , टिकट चेकर                   | 8765974107 | 274107 |
| 57 | श्री सतीश , सफाई नायक                      | 8765974108 | 274108 |
| 58 | श्री विनोद कुमार , सफाई नायक               | 8765974109 | 274109 |
| 59 | श्री दीपक कुमार , स0 नायक                  | 8765974110 | 274110 |
| 60 | श्री राकेश , सफाई नायक                     | 8765974112 | 274112 |
| 61 | श्री ओम प्रकाश , स्वीपर                    | 8765974113 | 274113 |
| 62 | श्री भृगुनाथ यादव , चौकीदार                | 8765974114 | 274114 |
| 63 | श्री फूल चन्द्र , चौकीदार                  | 8765974115 | 274115 |
| 64 | श्री राम आसरे , चौकीदार                    | 8765974116 | 274116 |
| 65 | श्री शंकर , चौकीदार                        | 8765974117 | 274117 |
| 66 | श्री सोनपाल , चौकीदार                      | 8765974118 | 274118 |
| 67 | श्री राम चन्द्र , चौकीदार                  | 8765974119 | 274119 |
| 68 | श्री मुद्रिका प्रसाद , चौकीदार             | 8765974120 | 274120 |
| 69 | श्री सोनेलाल , चौकीदार                     | 8765974121 | 274121 |
| 70 | श्री श्याम बाबू , चौकीदार                  | 8765974122 | 274122 |
| 71 | श्री विजय नारायन , चौकीदार                 | 8765974123 | 274123 |

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| 72  | श्री कुन्दन चौकीदार                   | 8765974124 | 274124 |
| 73  | श्री कृष्ण चन्द्र , चौकीदार           | 8765974125 | 274125 |
| 74  | श्री रामदीन प्रजापति , चौकीदार        | 8765974126 | 274126 |
| 75  | श्री राम अजोर चौकीदार                 | 8765974127 | 274127 |
| 76  | श्री चन्द्र देव , चौकीदार             | 8765974128 | 274128 |
| 77  | श्री श्रीराम मिश्रा , चौकीदार         | 8765974129 | 274129 |
| 78  | श्री उमाकांत माली                     | 8765974130 | 274130 |
| 79  | श्री राम जीवन माली                    | 8765974131 | 274131 |
| 80  | श्री राम आसरे , माली                  | 8765974132 | 274132 |
| 81  | श्रीमती मुन्नी देवी , माली            | 8765974133 | 274133 |
| 82  | श्रीमती सुघरा देवी , माली             | 8765974134 | 274134 |
| 83  | श्रीमती तारा सिंह , माली              | 8765974135 | 274135 |
| 84  | श्री छोटे लाल , माली                  | 8765974136 | 274136 |
| 85  | श्री अमृतलाल माली                     | 8765974137 | 274137 |
| 86  | श्री सोनेलाल माली                     | 8765974138 | 274138 |
| 87  | श्री जयपाल सिंह माली                  | 8765974139 | 274139 |
| 88  | श्री राकेश यादव , खाना वितरक          | 8765974140 | 274140 |
| 89  | श्री राम नरेश , खाना वितरक            | 8765974141 | 274141 |
| 90  | श्रीमती मीना कुमारी , कुक             | 8765974142 | 274142 |
| 91  | श्री रामेश्वर , कुक                   | 8765974143 | 274143 |
| 92  | श्री मुहम्मद रफीक , महावत             | 8765974144 | 274144 |
| 93  | श्री भारत सिंह, महावत                 | 8765974145 | 274145 |
| 94  | श्री तारा चन्द्र , राजगीर             | 8765974146 | 274146 |
| 95  | श्री सत्येन्द्र कुमार यादव वाहन चालक  | 8765974147 | 274147 |
| 96  | श्री शान्ती देवी                      | 8765974148 | 274148 |
| 97  | श्री रामेश्वर प्रजापति                | 8765974149 | 274159 |
| 98  | श्री राधाकृष्ण राठौर                  | 8765974150 | 274150 |
| 99  | श्रीमती प्रेमशीला माली                | 8765974151 | 274151 |
| 100 | श्री अमरनाथ श्रीवास्तव माली / चौकीदार | 8765974152 | 274152 |

## The commonly occurring Diseases among the wildlife

### Bacterial Diseases

➤ **Anthrax**- Caused by *Bacillus anthracis* causes infections in chitals, gaurs, hog deer, sambar, leopard, primates, elephants, rhinos, etc. The blood smear of infested animals shows short chains of rod with truncated ends.

➤ **Clostridial infections**- caused by

- i. *Clostridium perfringens* type D-enterotoxaemia in deer, sloth bear,
- ii. *Clostridium chauvoei*-black quarter in black buck,
- iii. *Clostridium tetani*-tetanus in elephants, rhinos etc.

A. **Symptoms:** enterotoxaemia infections the affected animals show ballooned up intestine, congestion in other organs and black quarter affected animals show symptoms of gangrenous myositis.

➤ **Leptospirosis:** is seen in the animals like tigers, deer, elephants, lions, sambars, nilgai, black buck etc. The important symptoms are stillbirth and abortion in the infested animals.

➤ **Paratuberculosis:** is caused by *Mycobacterium paratuberculosis*, in spotted deers, and in swamp deers. The disease spreads from ingestion of food and water contaminated by faeces of infected animals. The main signs of the disease are diarrhea and severe emaciation

➤ **Pasteurellosis:** caused by *Pasteurella multocida*, *P. haemolytica* in sambars, nilgai, spotted deer, black buck, hippos, lion, tiger, wolf etc. animals, causing congestion in their internal organs, haemorrhage, consolidation in lungs etc.

➤ **Plague:** is caused by *Bacillus pestis* in baboons, rhesus monkeys etc. the diseased animals show the symptoms like fever, dullness early prostration etc.

➤ **Spaphylococcosis:** caused by *Staphylococcus aureus* in tigers, lions, rhinos and zebras, causing arthritis and enteritis in them.

➤ **Salmonellosis:** This disease occurs in zoos due to the poor management of the animals; and is frequently seen in sambars, black bucks, jackals, leopards, chimps, rhinos etc characterized by the symptoms like diarrhoea, dysentery etc

➤ **Tuberculosis:** This zoonotic disease is caused by *Mycobacterium tuberculosis* in Rhinos, non-human primates, giraffes, deer-barking, hog, thamin, spotted, sambars, nilgai, black buck etc, elephants, lions, tigers, leopards, bears, pythons, crocodiles etc infesting lungs, intestine, and viscera of these animals. The main route of infection is through respiratory tract.

➤ **Shigellosis:** occurs in lions, tigers, primates etc. the infested animals show symptoms like pyrexia, dysentery. The disease is characterized by severe congestion in intestine.

### Viral infections

➤ **Aflatoxicosis:** is caused due to contaminated food in bears and deers. The kidneys become pale in colour, grayish white nodules can be seen on liver of infested animals

➤ **African horse sickness:** commonly occurs in horses, zebras, monkeys etc. the disease spreads through culicoides bites, and from infected domestic equines.

➤ **Rabies:** occurs in white tigers, brown bear, lions, civet cats, jackals, leopards, rhinos etc animals. The disease spreads mainly among the inmates of the zoo through the stray animals like dogs etc.

➤ **Foot and mouth disease:** caused by 'O' Asia-1 strain in Arictodatylans. The source of infection among the animals of zoo can be contaminated grasses brought from the infested areas (outside the zoo)

➤ **Reinderpest:** seen among nilgai, sambar, chitals etc. The natural infection among the wild ruminants is mostly air-borne and by ingesting contaminated food. The infested animals show symptoms like diarrhetic faeces containing blood. Oral and nasal mucosae-hemorrhages,



abomasal mucosa-swollen and congested, caecal and colonic mucosae, mesenteric lymph nodes are some of the commonly occurring other symptoms of the disease.

- **Canine distemper:** caused by RNA paramyxovirus
- **Infectious hepatitis:** (jaundice)
- **Infectious feline enteritis:** occurs in the felidae with symptoms like pasty to watery diarrhoea and rapid emaciation and dehydration.
- **Mycotic diseases:**
  - A. Intestinal candidiasis—in sambar, black buck.
  - B. Nercotic dermatomycoses— in gharial
  - C. Dermatomycoses—in chital, tiger, lion hyena etc.

**Some of the helminthic diseases are**

- Trematodiasis
- Fasciolosis
- Paragonimosis
- Schistosomiasis
- Paramphistomiasis
- Cestodiasis:
- Taeniasis
- Dipylidiosis
- Echinococcosis
- Diphyllobothriosis
- Nematodiasis
- Ascariasis
- Oxyuriasis
- Capillariasis

**Some of the protozoan diseases are**

- Trypanosomiasis
- Plasmodiasis
- Toxoplasmosis
- Sarcocystosis
- Coccidiosis
- Babesiosis
- Entamoebiasis
- Trichomoniasis
- Leishmaniasis

**Zoo hygiene and National Zoo Rules**

**Hygiene, Feeding and Upkeep:**

(21) Every zoo shall ensure timely supply of wholesome and unadulterated food in sufficient quantity to each animal according to the requirement of the individual animals, so that no animal remains undernourished.

(22) Every Zoo shall provide for a proper waste disposal system for treating both the solid and liquid wastes generated in the zoos.

(23) All left over food items, animal excreta and rubbish shall be removed from each enclosure regularly and disposed of in a manner congenial to the general cleanliness of the zoo.

(24) The zoo operators shall make available round the clock supply of potable water for drinking purposes in each cell /enclosure /cubicle.

(25) Periodic application of disinfectants in each enclosure shall be made according to the directions of the authorized veterinary officer of the zoo.

**Animal Care, health and Treatment:**

(26) The animals shall be handled only by the staff having experience and training in handling the individual animals. Every care shall be taken to avoid discomfort, behavioral stress or physical harm to any animal.

(27) The condition and health of all animals in the zoo shall be checked every day by the person in-charge of their care. if any animal is found sick, injured, or unduly stressed the matter shall be reported to the veterinary officer for providing treatment expeditiously.

(28) Routine examination including parasite checks shall be carried out regularly and preventive medicines including vaccination be administered at such intervals as may be decided by the authorized veterinary officers.

(29) The zoo operators shall arrange for medical check-ups of the staff responsible for upkeep of animals at least once in every six months to ensure that they do not have infections of such diseases that can infect the zoo animals.

(30) Each zoo shall maintain animal history sheets and treatment cards in respect of each animal of endangered species, identified by the Central Zoo Authority.

(35) Each zoo shall have a graveyard where the carcasses of dead animals can be buried without affecting the hygiene and the cleanliness of the zoo. The large and medium zoos shall have an incinerator for disposal of the carcasses and other refuse material