

Report on Philibhit Tigress Rescue Operation from Dr Dushyant Sharma,
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HIGHLIGHTS:

- 1) An adolescent tigress of about 2 ½ to 3 years strayed into sugarcane fields in Philibhit, and allegedly killed a man and grievously injured two others.
- 2) It created panic among residents. The irate mob set a forest post afire, vandalized the Mala Forest Range Office, and damaged vehicles and equipment. The mob also attacked forest staff quarters.
- 3) A force from the reserve police line and 10 police stations was deployed in the area soon after this incident.
- 4) A Rescue Operation was carried out the next evening (June 9th, 2020).
- 5) The subject tigress was darted at 5:45pm and after proper examination the tigress was shifted into a cage and transported to the local Guest House.
- 6) The forest officers decided to shift the tigress to Kanpur Zoo where she would be kept under observation until the decision was made to either shift her to another tiger reserve or keep her in the zoo.

BACKGROUND:

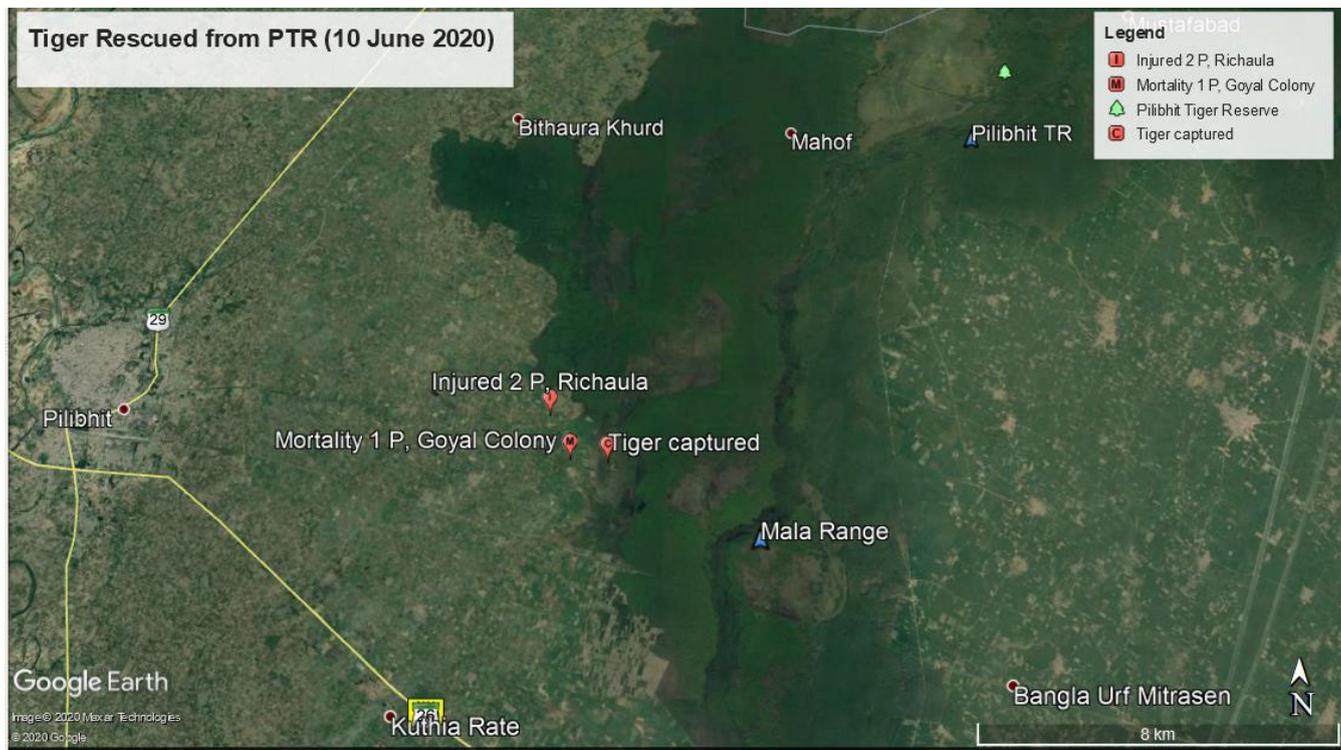
An adolescent tigress that has strayed out of the Mala Range of PTR attacked and injured two farmers of the Richhaura village on June 7th, 2020. The farmers armed with swords and other weapons had surrounded a maize field intent on killing the tigress. The Forest Officers on the spot, managed to convince the farmers to leave, assuring them that the forest authorities would not leave until the tigress was captured and translocated to another part of the forest. A police force was also called in to protect the tigress. A team from the Kanpur zoo had also arrived in Philibhit to assist in the operation. The Forest team installed a cage trap; the simple release mechanism is triggered when the animal attempts to take the bait that is attached to the cage. This was installed in an attempt to safely capture the tigress. However, the tigress eluded capture.

Late evening on June 8th, 2020, the tigress attacked and killed and dragged a man to a nearby sugarcane field. As villagers rushed to rescue him, the tigress disappeared. Later, irate villagers retrieved the body and took it to the Mala Range Office to stage a protest at midnight. The mob set a forest post afire, vandalized the Mala forest range office, and damaged vehicles and equipment. The mob also attacked foresters' quarters.

The next day, on the request of the CWLW, UP the rescue team from Uttarakhand headed by Senior Veterinary Officer Corbett Tiger Reserve was deployed in PTR to rescue the tigress.

LOCATION:

Philibhit Tiger Reserve (PTR) is within 5 km of a densely populated area. There are extensive sugarcane and maize fields with lines between the reserve and the surrounding village often blurred.



RESCUE OPERATION:

Following the instruction of CWLW, Uttarakhand, the rescue team from Corbett Tiger Reserve and Tarai West Division arrived at Director PTR Office at 12:00 pm on June 9th, 2020. The Team was informed that the tigress was spotted near a pond inside the reserve. The Team was not given permission to immobilize the tigress inside the Park. However, upon considering the advantages of rescuing the tigress inside the Park the authorities again requested for permission to tranquilize the tigress inside the Park.

Upon obtaining the requisite permission, the rescue team arrived on the spot. A detailed examination of the factors that could potentially affect the success or failure of the operation was taken into consideration. First and foremost, the rescue team had very clear instructions that priority must be given to the safety of the capture team personnel. It is essential that the Team Leader formulate and execute the plan by carefully studying the overarching context of the operation.

The objective of the operation was to chemically tranquilize and capture and translocate the tigress.

The tigress was spotted resting near a water body. Keeping in mind that after darting she may go into the water, a strategy was devised to restrict her movements by deploying vehicles around potential escape routes. At 5:45 pm, the tigress was darted from a tractor (Drug and dose-Table -1). A higher drug dose was employed to ensure rapid knock-down.

(Table-1)

Immobilizing Drugs and doses

Sex/Age	Primary Drug	Dose	Sedative	Dose	Antagonist	Dose
Female approx 2.5 – 3yrs of age	Ketamine (100 mg/ml)	200 mg initial dose, followed by 50 mg i.m top-up dose after 20 min.	Medetomidine 10 mg/ml	0.8 mg i.m	Atipamezole 20 mg/ml	4 mg i.m (diluted in distilled water)

(Table-2) Observations

Weight (est)	Level of Nutrition	Level of stress	Overall health	Induction period	Sedation	Antidote	Arosal
100 kg	Good	Mod	Good	4min. but the animal was approached after 15 min.	60 mins.	5X of the medetomidine dose.	After 10 min. of the antidote

Handling and Care: After darting, the tigress was left alone. The team ensured that she was not disturbed by sound or other stimuli. After waiting for 15 minutes, the tigress was approached from behind by the Veterinarian. The animal was prodded with the pole-snare to ensure that she was completely tranquilized.



A blindfold was placed to protect the tigress's eyes from direct sunlight, which could damage her retina. After observing the rate and depth of respiration, the mucous membranes were examined to measure the capillary refill time. Oxygen was supplemented. These vital signs were continuously monitored at 5-minute intervals to identify potential changes. Meanwhile, a top-up of ketamine was administered to ensure the depth of anaesthesia. A punctured wound was present on her left foreleg, which was dressed with antibiotic and an injection of 2 gm Ceftriaxone was given i.m.

(Table-3)

Post-induction monitoring of the vital sign during the immobilization

Time	Respiration	Heart rate	Temp.	SpO2
5 min.	12/min	54/min.	101°f	--
10 min.	13/min.	61/min	101°f	92
15 min.	22/min.	60/min	do	85
20 min.	12/min	52/min	101.7°f	--

(Table-4)

Sign exhibited during the complete immobilization

Parameters	Signs exhibited by the tiger during the immobilization
Rectal temp.	Normal
Respiration	Deep and slow
Heart rate	Slightly high but rhythmic
Palpebral reflex	No reflex
Gum	pink
Colour of blood	Initially light followed by dark in colour

(Table-5) Other parameters:

Weight	100 kg (estimated)
Length	168cm
Tail length	99 cm
Height	90 cm
Chest girth	110 cm
Upper canines	4 cm
Lower canines	3.5 cm

Throughout the period of immobilization, oxygen was supplemented, and a top-up of ketamine was administered at 20-minute intervals. After 60 minutes, a reversal dose of atipamezole was administered.



CHALLENGES & FACTORS CONSIDERED BEFORE THE USE OF THE POWERFUL IMMOBILIZING DRUG:

1. **Climate:** The ambient temperature is one of the most important factors that impact heat loss from the body. The greater the difference between the temp. of the body and that of the environment, the greater the rate at which heat can be lost. As the ambient temperature was high, the Team had to ensure that the tigress's body temperature did not rise. The Team carefully monitored her temperature and sprinkled water over her body and used an electric fan to maintain her temperature. This method was successful in allowing heat loss to take place at a satisfactory rate.
2. **Habitat:** The dense vegetation further hampered the operation as the dart could easily have been diverted off course by grass, twigs, branches, etc. The darting range was further reduced in the bushveld area as the subject animal could easily be lost in the thick undergrowth.
3. **Health of the animal:** An assessment of overall health of an individual animal is often difficult. In this Operation, we took into account the following factors in ascertaining the health of the tigress.

Snap diagnosis: The tigress was resting near a water body. The Team observed her from a distance and noted that her respiration rate, overall body condition, coat, injury/wound marks indicated that she was a healthy tigress.

Age: Very young animals' systems are not well developed to metabolize and thus limit potential side-effects of the immobilizing drug. As the subject was an adolescent tigress, related damage to the animal was deemed to be limited.

Health Assessment through camera Images: An examination of these images suggested that the tigress was fully grown and in good health.

CONCLUSION:

PTR is one of the narrowest tiger reserves in the country. As such, areas surrounding the park, including fields merge with the reserve. For a feline, these fields located on the edges of the Reserve are simply an extension of its natural habitat. Hence, it is not uncommon for them to include these edges in their territory and traverse them regularly. To the tiger, these fields are simply grasslands and extended wildlife habitats and often serve as corridors. As these fields are irrigated, they hold water and provide shelter and ideal conditions for relatively higher numbers of prey species such as pigs, deer etc. This in turn, attracts predators, including tigers. The subject tigress was relatively young and was most likely attracted to these fields that provided easy prey for her. In response to such types of attacks, it is essential that the forest department evolve an effective mechanism to rapidly identify, capture, and relocate the conflicted tigers.

The present rescue operation highlights a successful capture and removal of the conflicted tigress using the chemical capture method. The Veterinary Unit of CTR plays an important role in reducing human wildlife conflict by removing conflicted or wounded wild animals from not only within the parental state but also in neighbouring states.