

CHEMICAL CAPTURE OF A PROBLEM - ELEPHANT IN BOLANGIR, ORISSA

L.A.K. SINGH*, B.N. NAYAK** AND S.K. ACHARJYA***

Introduction

From the year 1977 an Elephant was entering villages, damaging houses and devouring stored food grains from houses in Bolangir and Padampur area of North-West Orissa. Some human casualties and injuries had also occurred.

Staff and experienced labourers were regularly deputed from Simlipal Tiger Reserve to Bolangir and Padampur area and attempts were made every year to drive away the Elephant from area where it was causing damages. In 1988 an attempt was made to apply tranquilisation techniques. None of these attempts resulted in any permanent solution to the recurring annual problem.

Although the people of Bolangir had been complaining about the Elephant every year, in June-July 1995 they agitated went on hunger strike, gheraoed the Divisional Forest Office and created pandemonium in the State Legislative Assembly. They wanted a permanent solution to the problem either by liquidating the Elephant after declaring it as "rogue" or by shifting it elsewhere after reapplying a well planned technique of tranquilisation. Since opinion were divided over its declaration as a rogue, the Chief Wildlife Warden, Orissa decided for the latter.

The success of capture was mainly because of very meticulous planning and preparations. An account of the method and drugs used and the actions taken for post-capture care and attendance is provided below.

Materials and Methods

The teams : A contingent of nearly 45 individuals was involved in the operation. They were from the Departments of Forest, Veterinary, Medical and Police. Two villagers, two important public and about 8 labourers also participated.

The group was divided into three teams. The first included two trackers and Forest Guard. They were latter joined with the second team which included the darters, the medical officer and SKA with a loaded pistol to cause blank fire in self defence should an occasion arise. The third team included all the rest members for restraint and post darting veterinary or otherwise care.

The darting equipment : The equipments which were used to dart the animal included the following (a) Dist-inject gun (1); (b) Dist-inject pistol (1); (c) 18-30 m range cartridge to fire the dart from pistol; (d) 30-60m range cartridge for the gun; (e) 5 ml aluminum dart syringe; (f) cartridge for use in 5 ml

* Research Officer, Simlipal Tiger Reserve, Baripada (Orissa).

** Wildlife Warden, Sambalpur Wildlife Division, Sambalpur (Orissa).

*** Divisional Forest Officer, Bolangir (Orissa).

syringe; (g) 35 mm barbed needle, and other darting accessories.

The drugs :

(i) For tranquilisation : 3 doses of 'Immobilon' of 5ml each containing :
Etorphine hydrochloride : 3 mg
Acepromazine maleate : 10 mg

Since entire quantity of the first and third dosages had not penetrated the body and oozing out of the drug at hit points were clearly seen, the total quantity of drug which entered the body was estimated to be about 8.0 mg Etorphine hydrochloride.

(ii) *For revival :*

2 IM doses and 3 IV doses of 'Revivon' containing :
Diprenorphine Hydrochloride : 8.25 mg in total.

(iii) *Human antidote :* The antidote for 'immobilon' in 'Narcan'. A dose of 2 ml Narcan was kept ready at all times with the medical officer who accompanied the darting teams. Each ml of the antidote contained Naloxone HCl 0.4 mg. However, its administration was not required.

The Communication System : Wireless communication network was established among the darting team, the veterinary team, two vehicles parked on the roadside from where we entered the forest, and the headquarter of the Divisional Forest Office. Later a temporary field VHF station was also established at the site where the Elephant was kept after capture.

The teams on foot had tow portophones (Walkie-talkies) and the vehicles had mobilephones. The Division headquarters and the field station operated two large sets as controls.

The Operation strategy :

(i) *Links with villagers and trekking :* Close links were maintained by the staff with local villagers. This was done by visiting the affected area and offering the people advice and devices to scare away the Elephants. Torches (mashals) were provided in the villages and night patrolling by staff was arranged. This generated considerable cooperation and participation from the villagers in tracking the Elephant and reporting its location to the staff.

Other than the staff of the department. Shri Girish Ch. Singhdeo, an advocate of Bolangir, through an organisational capability at village levels brought to us at right times the correct news about location of the Elephant. Most important of such information was about the location in the morning of 25.7.95, the day of capture.

(ii) *Requisites, jobs and movements :* On dt. 22.7.95 minute planning of requisites and work assignment were also chalked out in two sessions under the direct supervision of Shri S.R. Sagar, the Conservator of Forests, Koraput Circle. On 24.7.95 the movement strategy was drawn up and finalised.

On 25.7.95 at 0900 hrs a briefing session was organised for all members including the CDVO, his team and the Medical Officer. This was done with a purpose to acquaint everybody with the technique to be used and the role each member had to play.

After ascertaining the approximate location of the Elephant, on 25.7.95 at 1130 hrs we moved to the field and reassembled before entering the forest. The members were rebriefed about their role.

At first, team 1 moved out to locate the Elephant. The darting team followed the

first within 30 m. The team for post-capture care remained about 200 m behind the second team. After the Elephant was located the first two teams joined-up and the third was asked over the VHF to 'remain open in the air' through the mobilophone in a vehicle.

The capture : The trekking group made their first contact with the Elephant at 1315 hrs. Then the darting group moved to the front. Since we were operating from the ground and there were fairly thick thorny bushes rising above our head visibility was not clear. The Elephant moved towards us when the first dose of tranquiliser was darted from the gun 30-40 m away at 1420 hrs. The dart misdirected, hit the right temple. The Elephant continued to charge and move. At 1530 hrs and 2nd dart was fired from the pistol from a little over 20 m away. It hit at the upper trunk. After about 10 minutes the Elephant rested down on his knees and stretched the trunk on ground but very quickly stood up.

At 1617 hrs the 3rd dart was fired from the gun from about 30 m away to hit the right calf. at 1627 hrs the Elephant slept down on the ground on its right side.

The Elephant : The Elephant is male 9.5 ft (290 cm) at shoulder height and about 50-55 years old. There are no tusks but signs of broken point on left tusk was noticed. The right side could not be checked for broken points. However, it is makhna. It has a number of healed-up injuries. One of the scars on the lower abdomen is deep. The Elephant was named Kharsel after the name of the reserved forest from where it was captured.

Post-Immobilisation Care

Since the time the Elephant was immobilised the CDVO and his team

constantly monitored the condition of the Elephant and advised about the records of pulse, respiration and temperature. At one time pulse had risen to 72 against the normal 30 and they had wanted the restraint-operation to be completed fast so that revival antidote could be administered.

After immobilisation care was taken to keep the animal cool, with moist gunny bags and water poured over the body from buckets. Care was also taken to apply castor oil at points where chains and ropes were tied. Besides, antiseptic creams were applied to old injuries.

The Elephant was kept restrained with iron chains and ropes tied between legs and to distant trees. Large crow-bars were also hammered to the ground and offered additional anchor to the ropes. Care was also taken to allow air upto the Elephant, and keep the noise at the minimum.

Antidote Administration

Between 1725 and 1815 hrs the antidote was administered in small quantities of two IM doses and two IV doses of 'Revivon' containing a total of 8.25 mg Diprenorphine Hydrochloride. Each dose was timed and calculated after careful assessment of the physiological data recorded by the CDVO and his team.

Recovery

Signs of recovery were assured when relaxed genitalia completely restored back without any sign of paraphimosis. The genitalia had relaxed to an extruded state within 30 minutes after the third dart hit the Elephant. It retracted back at 1915 hrs i.e. after about two and a half hours from relaxation.

After about nine hours from darting, the sedative effect of Acepromazine was still wearing out and at 2330 hrs on 25.7.95 the Elephant returned to a subconscious state. After that he did not allow recording of pulse through it was still lying down on the ground and deeply snoring.

After nearly twelve hours from immobilisation on 26.7.95 at 0430 hrs. Kharsel lifted his head and attempted to get up, but could not do it because of physical restraint. After a long period of observation at 1330 hrs the cross-chain between the front and hind legs was freed and hind chain was loosened. At 1520 hrs Kharsel stood up and soon afterwards he accepted water to drink and leafy branches of banyan and bamboo to feed upon. He also accepted trunks of banana plants.

Discussion

Traditionally, Bolangir did not have natural Elephants which is linked to scarcity of water. However, in 1929-30 people of Bolangir had seen an Elephant which came from Kalahandi side. A kheda operation was organised by the then Maharaja (father of former Chief Minister, Late Rajendra Narayan Singhdeo). The Elephant died near Titilagarh.

It is said that Kharsel and another female Elephant were with two mahouts. The mahouts were apprehended to police custody in connection with some crime. From that time Elephants remained deserted. It happened in 1976-77. Local people believe that the female had been accepted into some wild population. But two years back people had seen with 'Kharsel' a female Elephant which they thought to be his old mate.

Every year 'Kharsel' followed a definite

route of movement. He crosses the Tel river around 3rd week of June and enters Bolangir Division near Kumbharmunda. During July-August he remains near about Bolangir adjoining Reserved Forests like Matkhai, Bonda and Kharsel. Then he progresses North-West towards Budharaja R.F. and enters Padampur. During December he follows the route on return into forest of the Districts Boudh and Phulbani forests.

In his sojourn of 1995, until 22nd July the damages caused by Kharsel included the following: thatched houses - 50, paddy - 30 bags, green gram - 10 kg, rice - 5 bags, sugarcane over 2 dec area, grocery shop - 1, refined oil - 16 liters, k. oil - 16 liters, banana plants - 32 nos., coconut trees - 3, papaya trees - a few, human injuries - 4 cases (in villages Baidupalli, Khalikani and Gandhreil).

Because of the capture an 18-years old problem was solved but it was realised it was not proper to use darts from the ground. Pet Elephants have to be trained for such darting operation and commissioned for use. The entire operation was done under inhospitable conditions and with tremendous risk to lives.

The operation highlights the following points which are of management interest :

- Genesis of a 'problem Elephant' is due to human mistakes. When the mahouts were taken to jail, no one thought of the Elephants which were under the care and direction of the mahouts.
- Female Elephants may get accepted by a wild herd.
- The route which the Elephant followed every year was apparently the route along which he was taken by his mahout.
- Using a dart from the ground is risky as well as not very efficient.

Data Sheet for Recording and Monitoring Immobilised Elephant

Species : *Elephas maximus* Date : 25.7.95

Captive or wild : Feral

Purpose of capture : Control problem animal/translocate for departmental use.

In herd or alone : Lone

Ambient temperature : 38°C

Day : Bright

Physical condition : Appeared normal, agile.

Emotional state : (before darting) appeared normal.

Name of the drug(s) used:

Drug(s) : Large Animal Immobilon (see text)

Time of injection : 1420 hrs 1530 hrs 1617 hrs

Mg. used 3.5 3.5 3.5

cc. used drug : 3.5 drug: 3.5 drug :3.5

dist. water 1.5 dist. water 1.5 dist. water 1.5

Route : subcutaneous i/m i/m

Site : rt. temple Upper trunk rt.calf

Remark : loss due to oozing out from point of hit(?)

Behaviour at the

time of darting : Mock-charge Standing Turning back

Time when animal goes down

(induction time) (1540 rested for a while) 1627hrs

Sex : male Breeding status : Makhna adult

Age 50-55 yrs. Weight (if possible) : 3500 kg

Condition of animal (coat, ecto-parasite)

Shining coat, no ectoparasite, with a number of healed-up injuries

Vital signs

Time	T.F	Respiration	Pulse	Revivon inj./signs.
1600	98.4	6	72	
1647	—	-	-	Genitalia: total relax
1725	—	-	—	1.50 ml IM
1730	98.4	3	34	
1745	98.6	4	36	0.25 ml IM
1750	—	-	—	0.50 ml IV
1815	98	6	24	0.50 ml IV
1830	98	6	36	
1845	98	6	32	Gas release (1st)
1900	—	-	—	Urination
1915	—	-	—	Genitalia: total retract
1930	98	6	36	
2330	98	4		Animal resisted.

Others

Convulsion (none, moderate, extreme) : none noticed

Salivation (none, moderate, extreme) : moderate

Antibiotics Furaxone oint. applied to old injuries

Reversal Name of the drug Large animal revivon (see text)

Time when animal recovered : 0400hrs/26.7.95

Any other comment : Because of physical restraint it was unable to stand up. After restraints were partially removed. it stood up at 152hrs/26.7.95.

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SUMMARY

The paper presents the results of operations launched to capture the Elephant using chemicals in Bolangir.

बोलांगीर, उड़ीसा में हाथी - रसायनिक बन्दी एक समस्या
एल०ए०के० सिंह, बी०एन० नायक व एस०के० अचरजिया

सारांश

बोलांगीर में रसायनिक प्रयोग द्वारा हाथी को पकड़ने की क्रिया का विवरण व प्रमाण इस अभिपत्र में प्रस्तुत किये गये हैं ।
