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TECHNIQUE ADOPTED TO RESCUE AND REHABILITATE GANGES RIVER DOLPHIN, *PLATANISTA GANGETICA GANGETICA* (ROXBURG, 1801) FROM DONK RIVER AT KISHANGANJ DISTRICT OF BIHAR, INDIA

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ABSTRACT

In an attempt to rescue & rehabilitate two accidentally trapped Ganges River Dolphin (Platanista gangetica) from a patch of shallow water pool of river 'Donk' at Baldihati village of Kishanganj district of Bihar, India, the authority of Forest department of Araria Division of Bihar and Raiganj Division of West Bengal adopted indigenous technique. The place is adjacent to the Uttar Dinajpur district of West Bengal and a large gathering of local people of both the districts made the situation chaotic. DFO of both the Divisions handled the operation in a pragmatic way by rescuing those Dolphin from the shallow pool and transported to the nearest suitable place which is 17.5 km away and released them in a major river named Mahananda, a tributary of river Ganges. The authority searched for a standard Dolphin rescue protocol as well report on rescue operation of trapped / stranded Dolphin but they themselves had not enriched enough, therefore they have chosen their own way to rescue those endangered A2abcde mammals and succeeded subsequently.

Keywards: Trapped Ganges dolphin, *P. gangetica*, rescue, Donk river, Mahananda river and Bihar.

Introduction

According to Roberts (1997) the Ganges River dolphin (*Platanista gangetica gangetica*) and Indus River dolphin (*P. minor*) are found in the Indian subcontinent. The *P. gangetica* has been listed as Endangered **A2abcde** (ver 3.1) by the IUCN (2015). It has also been placed in Schedule-I of Wildlife (Protection) Act of India (1972). A number of papers on its distribution is available from studies of the work of Anderson, 1879; Jones, 1982; Reeves & Brownell, 1989; Sinha, 1997, 2000 etc. In 2010 Bashir *et al.* reported that the species is recorded from the foot hills of the Himalaya including Nepal and Bhutan to the tidal zone of India and Bangladesh and it is endemic to the Ganges, Brahamputra, Karnaphuli-Sangu, and Meghna river systems. Chatterjee *et al*. (2015) recorded a dry season habitat of *P. gangetica* at the confluences and downstream of the rivers of Kaljani and Torsha at Northern part of West Bengal.

Sinha *et al*. (2010) mentioned the various threats of species like pollution, sedimentation, irrigation, river traffic, poaching etc. Chatterjee *et al*. (2015) noted that extensive fishing by gill nets, filamentous nets and ferry crossings were found to be major threats to the dolphin population in northern part of West Bengal. The species thrives in the long stretches' of deep water, shallow water meander, river confluences as well mid channel sand bars (Sinha *et al*. 2010). According to Hua *et al*. (1989), Smith (1993) and Smith *et al*. (1997, 1998) the *P. gangetica* prefer counter current system of the river where eddy is formed. This eddy counter current system is common in the rivers of the northern part of sub-Himalayan India, as the rivers of these areas swell enormously after heavy shower in hills and make eddy counter current system. Water level goes down rapidly in small rivers and the tributaries of the major rivers in this region, which makes patches of pools in few discrete river beds which might be an accidental trapping threat to the animal. In this paper the authors tried to elaborate the techniques adopted in a rescue and rehabilitation operation to save two *P. gangetica* trapped on a patches of pool on river Dock, a tributaries of Mahananda river.

A message was received on 3rd March 2012 that two Dolphins were trapped in a small river named 'Donk' at the place called 'Baldihati', an interior village in Kishanganj District of the State of Bihar. The place is adjacent to the border of Uttar Dinajpur district of West Bengal

and a report of huge gathering of people from both the district was transmitted to the Forest authority of both the district on that date. 'Donk' is a tributary of river Mahananda which originates from the base of Himalaya at North Bengal and gets merged to the river Mahananda in Bihar. Mahananda is a perennial river and a tributary of Ganges which merge with her at Malda district of West Bengal. Therefore there might be a chance of migration of these two mammals from River Ganges. The 'Donk' is a typical river of sub-Himalayan India where eddy counter current system could be formed. This type of habitat is preferred by *P. gangetica* (Sinha *et al*. 2010).

The authority of the Forest department of both the district had worked hand-to-hand to rescue and rehabilitate those two mammals from that remote area. Local administrative authorities were informed regarding law and order and the forests personnel tabulated the challenges of that operation.

Issue and challenges

1. Place was a remote village therefore modern infrastructural facilities was not available in emergency.
2. The sex cannot be determined as the process could be harmful to those animals.
3. The month was March and the animal may be pregnant if it was found female.
4. There was no literature at that moment and in that place for capture and rehabilitation of dolphin. There is no guideline available to the authority involved regarding rescue and rehabilitation of trapped Dolphins. The authorities involved in the process were also inexperienced in that process and the situation was urgent for the safety of those animals.
5. The fishermen to be engaged in the process had no experience of capturing a dolphin.
6. The length of net available locally was not big enough to capture such animals.
7. The animal was disturbed due to huge gathering of the local people.

Materials & Methods

1. The area is surveyed by using GPS tracking (Mytracks android application). It was decided that both the Dolphins would be released to Mahananda river near Thakurganj of Bihar. The transportation route from the river Donk to river Mahananda was surveyed.

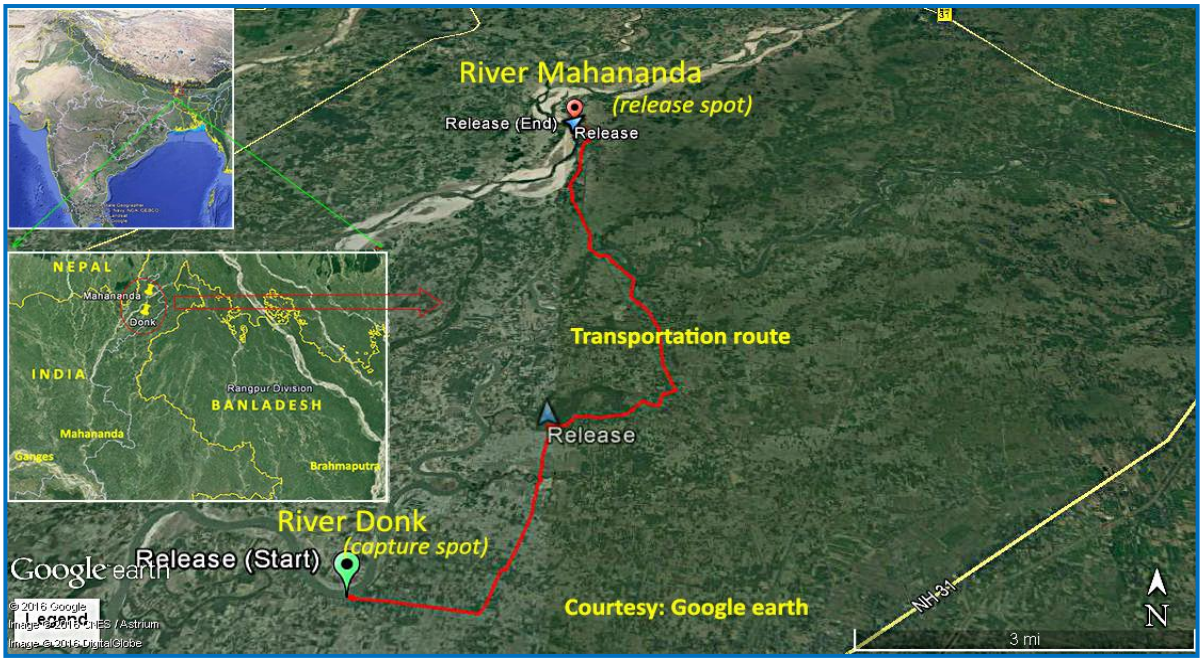
2. The water level of the releasing spot at river Mahananda was measured and it was average 10 ft where the dolphins would be released.
3. The details of road length and the Railway crossing was studied after opening the kml (Keyhole Markup Language) of the survey using 'Google earth' system.
4. It was also decided that both the Dolphins would be captured by using fishing net and it will be transported by a truck to the releasing spots.
5. A hanging stretcher would be made for carriage of the Dolphins.
6. It was also decided to catch one by one animal and released them to the releasing spot accordingly so as to rectify the techniques in next one if any flaw or complication arises in the process.
7. To cover the distance in minimum time police was requested to keep the road free from any traffic jam.

Results & Discussion

Location

The animals were rescued from River Donk at Village Baldihati of Kishanganj district of Bihar ($26^0$16'41.54" N & $89^0$07'37.33" E) and Released in river Mahananda near Thakurganj bridge ($26^0$24'02.77" N & $89^0$09'07.02" E). The length of road covered to transport the animals to release site was approximately 17.5 km. Detail of GPS spot location and transportation route is presented in Plate-I.

Plate-I: **Capture site, transportation route and release spot.**



Sequence of Rescue Procedure

1. A stretcher was made with size of 6 ft X 4 ft (L/W). The handle of the stretcher was made up with Bamboo and the base of it was made up with 2 inch thick sponge which is covered with thick smooth cloth. The sponge was used so it can hold water which would help the animal to arrest desiccation during transportation as the animal had to bear a journey of 17.5 km and it will take around 45 min (Plate-II, Fig-1).
2. The truck was prepared ready where the stretcher could be hanged so as to reduce the jerks during transportation (Plate-II, Fig-2).
3. A reccy study with a timber log was carried out to minimize the problem and to train the persons involved in the operation before capturing those mammals (Plate-II, Fig-3).
4. After that the fishermen were engaged to drive one animal to bring to shallow water area where the capture will be easier.
5. After allowing acclimatization time to both the animals in that situation the area was demarked by piling series of bamboo.

6. At the downstream side of that area a huge net was entangled to keep the area smaller (Plate-II, Fig-4).
7. Twenty five fishermen were engaged to spread the net with the help of their boat (Plate-II, Fig-5).
8. Few fishermen were engaged to crawl with net by hand in shallow water and gradually from smaller circle and finally trapped the animal by the net manually (Plate-II, Fig-6).
9. Then the animal was pulled in the stretcher within the river and carried up to truck and then the stretcher was hanged in truck; the animal was wrapped immediately with blanket and was sprayed with water after recording the morphometric characters. It was found a female with a length 2.50 m (Plate-II, Fig-7 & 8).
10. During transportation the animal was sprayed with water to keep cooling the body temperature.
11. After reaching to the targeted releasing spot the animal along with stretcher was unloaded from truck carried to the deep water with the help of a boat and finally released to the river Mahananda so that they can manage to return to the Ganga (Plate-II, Fig-9).
12. The capture and release of the 2nd dolphin was done in the same manner. This animal was also found a female with body length of 2.52 m.

After successful completion of the rescue operation, literatures were surfed regarding techniques to rescue trapped *P. gangetica*, and only a few information was available, therefore authors took the decision to present the technique adopted in this operation in seminars and scientific literatures so that experts should come forward and prepare a guideline / protocol to save the National Aquatic animal in future.

A paper is available on the 'Rehabilitation and release of Bottlenose Dolphin from Atlantis Marine Park of Australia (Gales & Waples, 1993). A poster presentation on 'Rescue of two Bottlenose Dolphins released to the Wild without adequate preparation' by Spradlin and Terbush (1999) at Maui, Hawaii, USA in 1999 guided about the Marine Mammal Protection Act which is merely impossible to follow in our country with limited resource and campaign. A literature on 'Stranded whales and dolphins' of Department of Conservation Marine Species and Threats Team of Wellington, New Zealand has guided to some extent about the trapped

mammals which was published on September 2015. All these literatures are related to the marine dolphin or operation system followed or guided by the laws of other country.

A newspaper article on 'Villagers rescue Dolphin in West Bengal' circulated by 'The Times of India' on 1st February 2009 about the trapped dolphin in an irrigation canal of East Midnapore district of West Bengal is available to the public. Another newspaper article on 'Stranded humpbacked dolphin rescued at Nagothane' published by The Indian Express on 2nd July 2015 stated about the fact of trapped marine Dolphin in Amba river of Maharashtra of India. A pregnant Dolphin was rescued from Damodar river on 25th January 2001 and released to Bhagirathi river (Sinha *et al*., 2010). There is no scientific literature available in public domain regarding the technique of that operation, but only the picture presented in that cited literature showed the use of sponge on the base and transportation by using net hammock which is to some extend similar to the present rescue technique.

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Plate-II: Sequence of activities of the rescue operation.

Fig-1: Rescue stretcher.

Fig-2: Hanged rescue stretcher on a truck.

Fig-3: Reccy of the rescue operation.

Fig-4: Downstream netting.

Fig-5: Fishermen ready for rescue.

Fig-6: Capture by netting.

Fig-7: Transporting to truck.

Fig-8: Covered by moist blankket.

Fig-9: Releasing river Mahananda.