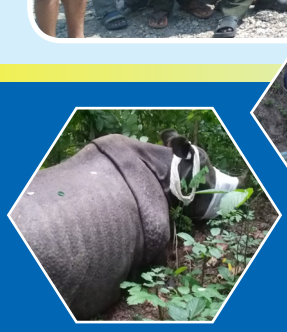
Transboundary Rescue Operation of Greater One Horned Rhinoceros

An Exemplary Effort of Chitwan National Park
Chitwan, Nepal













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Documented by:
Mr. Nurendra Aryal, nurenaryal@gmail.com
Mr. Abhinaya Pathak, abhinayapathak17@gmail.com

Assistant Warden, Department of National Parks & Wildlife Conservation

Reviewer:
Mr. Bed Kumar Dhakal, Planning Officer, Department of National Parks & Wildlife Conservation
Dr. Kamal Prasad Gairhe, Senior Veterinary Officer, Chitwan National Park
Mr. Shiv Raj Bhatta, Conservation Program Director, WWF, Nepal
Mr. Rishi Ranabhat, Assistant Warden, Department of National Parks & Wildlife Conservation
Mr. Bharat Gotame, Head, Terai Programs and Livelihoods, WWF, Nepal

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Mr. Nurendra Aryal, Mr. Abhinaya Pathak, Mr. Purushotam Pandey, Mr. Sujan Khanal and Mr. Santosh Bhattarai

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"Long live Nepal-India transboundary cooperation for biodiversity conservation"

(Source: Internet)

Foreword



Chitwan National Park (CNP) was established in 1973 A.D. as the first National Park of Nepal, covering an area of 952.63 sq. km. It was enlisted in the World Heritage Site in 1984 A.D. The park is home to several endangered and valuable flora and fauna of the country and is also the first Conservation Assured Tiger Standards (CA|TS) site in the globe. The Park also encompasses other renowned areas such as the Beeshazari and Associated Lake as Ramsar Site and an Important Bird Area (IBA). However, conservation of these valuable resources has always been challenging due to anthropogenic and non-anthropogenic factors despite its significant importance in maintaining unique natural ecosystem.

The recent efforts in building transboundary cooperation and co-ordination between Chitwan National Park (CNP) and Valmiki Tiger Reserve (VTR) have proved to be instrumental for effective biodiversity conservation in a broader landscape level. One of a remarkable example of such transborder cooperation was the successful rescue operation of rhinoceros which were washed away by flood in CNP. Due to the devastating flash flood on August 12, 2017, CNP was severely affected as many wild animals were washed away and found dead. Most of the plain area of wildlife habitat was destroyed. The park faced irreversible loss. Meanwhile rhinos, the iconic species of CNP were also critically affected by the flood. Information on the swept of precious greater one-horned rhinoceros to India was received from Deputy Director of VTR and Team Leader of TAL/India. After receiving the information, CNP took immediate action to rescue the rhinos.

A total of twelve rhinos were rescued from Triveni area, downstream of Narayani River by CNP authority in coordination with VTR authorities. Out of 12 rhinos, nine were rescued from VTR, India and rest three were from Triveni, Nawalparasi, Nepal. The rescue operation was executed under the leadership of CNP with the technical support of National Trust for Nature Conservation-Biodiversity Conservation Center (NTNC-BCC) and other conservation stakeholder. We believe that this book is useful to individuals, professionals, researchers, students and institutions who are interested in wildlife rescue and translocation.

First of all, I deeply thank to Dr. Kamal Prasad Gairhe, Mr. Nurendra Aryal, Mr. Abhinaya Pathak, Mr Binaya Mishra, Mr Purushotam Pandey and all the staffs of CNP for their

dedication and success in the rescue operation. I would also like to acknowledge the staffs of NTNC-BCC for the technical and financial support. I am thankful to Dr. Chiranjibi Prasad Pokhrel, Mr. Ram Kumar Aryal, Mr. Saneer Lamichhane, Dr. Amir Sadaula, Mr. Ananda Ram Thapa and Mr Kiran Rijal for their continuous and tireless efforts.

Similarly, I am also thankful to Dr. Anil Singh, Team Leader of TAL Program, India for giving the first information about the swept rhinos in the border region due to the flood. During the whole process, authorities and staffs of VTR highly contributed their time and provided all necessary support. I would like to thank Mr. S. Chandrasekhar/ Director, Mr. Amit Kumar/Dy. Director and all the staffs of VTR. I would also like to thank Mr. Bharat Jyoti, APCCF & Chief Wildlife Warden, Bihar, India for facilitating the process of the rescue operation. I am also grateful to CNP Protection Unit Shri Batuk Dal Battalion of Nepal Army for supporting the rescue operation.

I am grateful to Mr. Man Bahadur Khadka, then Director General of Department of National Parks and Wildlife Conservation and Mr. Govinda Gajurel, then Member Secretary of NTNC for their moral and other necessary supports. Further, I can't overlook the supportive buffer zone people, border security forces of Nepal and India, Nepal Police and District Administration Office of Chitwan and Nawalparasi districts for their ceaseless support during the rhino rescue operation. I would like to thank reviewer team for their valuable inputs to prepare this report. Finally, I thank WWF-Nepal Program for the financial support to publish this document.



Ram Chandra Kandel, Ph.D.
Director General
Department of National Parks & Wildlife Conservation



Devastating flash flood on August 12, 2017 in Chitwan National Park. A herd of chital, spotted deer *(Axis axis),* trying to cross swollen Rapti river near Kasara.

(Source: CNP)

Executive Summary

Chitwan National Park has been successfully protecting a large population of One horned Rhinoceros along with other rare and endangered species like Tiger, Elephant and Gharial crocodile. A devastating flash flood in August, 2017 left irreparable impact in wildlife habitat where some of the wildlife including rhinos were reported to swept away to India. The historical rescue of Rhinoceros was the first successful transboundary relocation of rhinos from India to Nepal. It was a result of mutual understanding and cooperation between the authorities of Chitwan National Park (CNP) and Valmiki Tiger Reserve (VTR). The rescue operation was planned with the best available technical and managerial knowledge & experience. Initially, ten rhinos were rescued, out of which nine were from Indian territory and one from Nepalese territory. Then, additional two washed away rhinos from the Susta area of Nepal were also rescued. Among twelve rescued rhinos, nine were adult females, one sub-adult female, one sub-adult male and one infant male. Seven rhinos were rescued from sugarcane fields and five were rescued from isolated patches of forest. These rescued rhinos were released successfully in the eastern sector of CNP.

More than 55 experienced personnel from CNP, staffs of protection unit of CNP, NTNC-BCC staffs and hired labors involved in the rescue operation. Similarly, 181 personnel from VTR, India had contributed in the historical rescue operation. A total expense for the rescue operation was Nepali Rupees Forty-three lakhs fifty-nine thousand five hundred and thirty-eight.

This successful rescue operation has ensured positioning national effort and optimum use of technology in the conservation and management of wildlife in Nepal. It helped to strengthen capacity of protected area staffs with new ideas and methods to be used in rhino rescue operation. Our past experience of translocations of over 100 rhinos with present motivated teamwork has significantly contributed in the success of the rescue operation which not only valued our conservation effort but also provide a great opportunity to train our new staffs and hand them experience as well. As it was unlike experience for each individual involved in the rescue operation, it will certainly motivate and heightens the performance level of the individuals to carry out a similar type of rescue operation in future. The rescue operation shows how important and necessary is the transboundary coordination meetings, mutual understanding and cooperation and regular communication. The outcomes of these meetings and efforts can be experienced while carrying out various joint conservation missions in the bordering areas among which this rhino rescue operation was noteworthy.

Moreover, the encouraging level of community participation made the rescue operation more effective and efficient. The communities who live close to wildlife habitat in Nepal and India have shown enormous patience and provided support for biodiversity conservation which was much appreciable in each phase of rescue operation.

Contents

Foreword i
Executive Summary iv
1. Introduction 1
1.1 Background 1
1.2 Historical Transboundary Rescue Operation 1
2. Approaches and Methods 3
2.1 Communication and Coordination 3
2.2 Preparation for Rescue 4
2.3 Phases of Rescue Operation 6
2.3.1 Pre-capture 6
2.3.2 Capture 8
2.3.3 Post-capture and release 10
3. Details of the Rescued Rhinos 11
First Rhino 11
Second Rhino 12
Third Rhino 13
Fourth Rhino 14
Fifth Rhino 14
Sixth Rhino 15
Seventh Rhino 16
Eighth Rhino 16
Ninth Rhino 17
Tenth Rhino 18
Eleventh Rhino 19
Twelfth Rhino 20
4. Human Resources 21
5. Financial Resources 22
6. Conclusion and Recommendation 22
Annexes 23
Annex I: Permission from Government of Bihar, India to carry out rhino rescue operation 23
Annex II: Details of drug used in rhino rescue operation 24
Annex III: Participants name list of rhino rescue operation 24
Annex IV: Financial aspect of rhino rescue operation 28
Additional photos of rescue operation 29

1. Introduction:

1.1 Background

Chitwan National Park (CNP), the first national park of Nepal possesses a huge variety of biodiversity which has enriched its glory all over the globe. CNP was inscribed as the Natural World Heritage Property in 1984 because of its superlative natural features of exceptional natural beauty in terms of its scenic attractions of forested hills, grasslands, great rivers and views of the distant Himalayas (Criteria vii), the last major surviving example of the natural ecosystems of the Terai region (Criteria ix) and significant populations of several rare and endangered species, especially the Greater One-horned Rhinoceros, Tiger and the Gharial crocodile (Criteria x). CNP is also the first Conservation Assured Tiger Standards (CA|TS) site in the globe. It is recognized as an Important Bird Area (IBA) by BirdLife International and Beeshazar and Associated Lake series as a Ramsar Site. CNP harbors second largest population of greater one horned rhinoceros in the World. The park is one of the two protected areas of the country which lies in both Terai Arc Landscape (TAL) & Chitwan-Annapurna Landscape (CHAL).

Valmiki Tiger Reserve (VTR) is located in North West of the State of Bihar, India. The rich biodiversity and ecological integrity of VTR is an epitome of Himalayan Terai landscape. It is also the part of TAL. VTR comprises of the Valmiki National Park and Valmiki Wildlife Sanctuary. The VTR forest area extends 901.07 sq. km of which Valmiki Wildlife Sanctuary covers 880.78 sq. km and the Valmiki National Park is about 335.64 sq. km. In north, VTR is bordered by two protected areas of Nepal, viz. Chitwan National Park and Parsa National Park while the Indian state Uttar Pradesh embraces the Valmiki Wildlife Sanctuary from western side. Major wildlife of VTR includes Tiger, Sloth bear, Leopard, Wild dog, Bison, Wild boar etc.

(Source: https://www.valmikitigerreserve.com/about.php.)

Three river systems namely Narayani (Gandak), Rapti and Reu on the boundary of CNP plays vital role in maintaining the riverine grassland, and lakes and ponds inside the park. But the flood on August 12, 2017 (Shrawan 28, 2074 B.S.) was catastrophic to the national park as colossal number of wild anim als were washed away from the park area. Besides the brunt of the flood which had not just crippled the park ecosystem, infrastructures and employee but also had the new challenge as well as opportunity to rescue animals across the border.

1.2 Historical Transboundary Rescue Operation

Nepal's wildlife conservation efforts put into action with the species focused protection at the beginning. During 1960s, *Gainda Gasti* (rhino patrol), a team of armed force was deputed for protection of Rhinoceros against widespread poaching in Chitwan valley. Realizing the prolific threats and urgent of wildlife and its habitat protection, CNP was designated as a first National Park of Nepal in 1973 with an area 544 sq. km. The park area was extended to 932 sq. km in 1976 and revised to 952.63 sq. km in 2017. Wildlife conservation paradigm in Nepal gradually shifted from species level to ecosystem focused integrated conservation and development approach, and ultimately to landscape level with trans-boundary approach. Two conterminous transboundary protected areas CNP & VTR are the most prominent biodiversity hot spots and the part of TAL. Movement of wild animals from either side such as Tiger, Elephants, Gaur, Rhinoceros and many other animals have been noticed, so there has been the practice of sharing information about their movement across the border and to adopt conservation strategies and cooperation between each other.

On August 13, 2017, Deputy Director of VTR and Team Leader of TAL/India made a call to Chief warden of CNP and informed that some rhinos from Nepal had been washed away to floodplains of VTR and suggested that instant rescue was urgent for their survivable from the disaster and poaching. Following the information from VTR, first visit was made by CNP team to VTR on August 15, 2017 and three elephants were moved to VTR from CNP on the same day. An adult female rhino was rescued from Bagaha, Bihar, India on August 17, 2017 by the rescue team. This was the first rhino rescue from India by a team of CNP, and brought back to its habitat. The successful rescue operation indicates the optimum use of capacities, experience and practice of techniques of Nepali team. Then after, the rescue operation was continued until September 1, 2017 in which seven rhinos from India and one rhino from Triveni, Nepal was rescued and released to their natural habitat in CNP. In second phase, two rhinos were rescued from India, one on November 9, 2017 and another on November 19, 2017.

Other two rhinos were also rescued from Triveni, Susta of Nepal on December16, 2018 and August 4, 2020. All together twelve rhinos, 9 from VTR, India and 3 from Triveni, Nawalparasi, Nepal was rescued during the rescue operation. Brief description of the rescued rhinos from Nepal and India is given in Table 1.

Table 1: Brief description of rescued rhinos

S.N.	Location	Sex	Age group	Date of rescue
1.	Bagaha, Bihar, India	Female	Adult	Aug 17, 2017
2.	Chunbhatta, Bihar, India	Female	Adult	Aug 20, 2017
3.	Chunbhatta, Bihar, India	Female	Adult	Aug 21, 2017
4.	East of Jatashankar, Bihar, India	Male	Sub-adult	Aug 22, 2017
5.	Chunbhatta, Bihar,India	Female	Adult	Aug 25, 2017
6.	Shivapur Gadhi, Triveni, Nepal	Male	Infant	Aug 26, 2017
7.	Bhediyari, Bihar, India	Female	Adult	Aug 31, 2017
8.	Chunbhatta, Bihar, India	Female	Adult	Sept 1, 2017
9.	Madanpur, Bihar, India	Female	Adult	Nov 9, 2017
10.	Piprasi, Bihar, India	Female	Adult	Nov 19, 2017
11.	Susta, Nepal	Female	Adult	Dec 16, 2018
12.	Susta, Jharlaiya, Nepal	Female	Adult	Aug 4, 2020

2. Approaches and Methods

2.1 Communication and Coordination

Rhino rescue operation is embedded with various significant steps which should be given due consideration. The major factors that are needed to be focus include coordination, communication, management and proper techniques of rescue operations. Communication and coordination are the primary elements of each and every mission. Nepal has already been capable of developing strong communication with its counterparts across the border through various levels of networking and transboundary coordination meetings that were conducted earlier. In this historical transboundary rhino rescue operation, communication and coordination among different stakeholders at various levels was made by both CNP and VTR. Brief account of the timeline is highlighted below.

August 13, 2017: Chief Warden (CW) of CNP Mr. Ram Chandra Kandel was informed about the swept rhinos by Dr. Anil Kumar Singh, Team Leder TAL India, Mr. Amit Kumar, Deputy Director of VTR, India, and Shiv Raj Bhatta, Director of WWF Nepal.

August 13, 2017: CW Mr. Ram Chandra Kandel immediately assigned Assistant Warden Mr. Nurendra Aryal to plan and mobilize team for the rescue operation of rhinos.

August 14, 2017: CNP coordinated with National Trust for Nature conservation, Biodiversity Conservation Center (NTNC-BCC), Sauraha, Chitwan and discussed minutely to plan for the rhino rescue operation from Bihar, India.

August 14, 2017: CW of CNP Mr. Ram Chandra Kandel communicated to Mr. Man Bhadur Khadka, Director General of Department of National Parks and Wildlife Conservation (DNPWC) for his consent and coordination for the needful action. Then he lauded the CNP team and immediately advised to launch rescue operation ensuring that he would manage necessary coordination from the central level.

August14, 2017: Three elephants were moved immediately to Valmikinagar from western sector of CNP.

August 15, 2017: CNP team headed by Assistant Warden Nurendra Aryal reached to Valmikinagar, VTR and made short discussion about rhino rescue with Deputy Director of VTR. A joint Team of CNP and VTR visited Bagaha on same day for inspection of swept rhino.

August 16, 2017: On request of CW of CNP, APCCF & Chief Wildlife Warden, Bihar issued the official letter to carry out rescue operation (Letter No-Wildlife - 466 Date 16.8.2017 attached in Annex I).

August 16, 2017: Arrangements of drugs and medicines, medical equipment and dart gun, maintenance of cage and sledge, transportation management were arranged by CNP and NTNC-BCC. CNP also communicated and shared information about these rhinos and rescue operation with Chief District Officer, Nepal Police and Armed Police Force, Nepal of Chitwan and Nawalparasi districts.

August 17, 2017: Rescue team of Chitwan National Park and National Trust for Nature Conservation, Biodiversity Conservation Center moved from Chitwan to Bihar, India. Fortunately, on the same day at 17:50, a female sub-adult rhino was captured and rescued to Nepal.

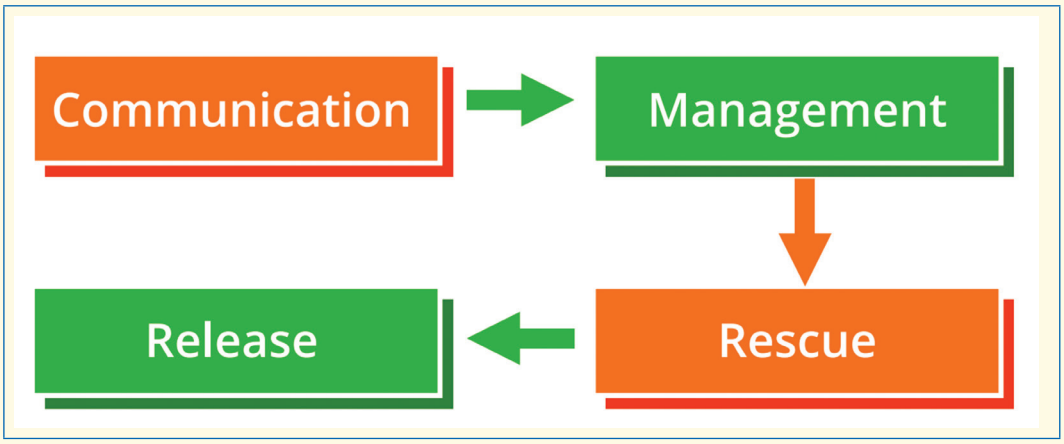


Fig.1. Diagram showing overall phases of rescue operation in Nepal and India

2.2 Preparation for Rescue

Chitwan National Park has sublime experience regarding the translocation of wild animals. Park had transport crates and sledges which were kept maintained. Prior to the rescue operation, crates and sledges were repaired and ensured its effective function in the field. Similarly, tranquilizing drugs, antidote, medicine, medical equipment, darting gun and its accessories were managed. Logistic arrangement like camping tents, sleeping bags, mattress, cooking vessels and utensils were also arranged by an experienced logistic team. Truck for transportation of rescued rhinos with experienced and trained driver, official vehicles from CNP and NTNC-BCC were also arranged.

Team management is crucial to carry out any rescue operations. Team management includes managerial team, veterinary team, security team, technician team, and labor team. The whole team worked as a unit accompanied by encouraging support from the officials of VTR. During the first phase of the rescue operation, Nurendra Aryal, Assistant Warden cum head of planning section of Chitwan National Park led the management team under the direction of Chief Warden Mr. Ram Chandra Kandel. The management team had proper coordination and control over all the team members.

CNP team made regular coordination and communication with the Deputy Director of VTR, Amit Kumar for efficient execution of rhino rescue operation in the field. Further, CNP management team also made regular communication with Chief Warden of CNP and Director General of DNPWC, Nepal.



Photo 1: Sledge



Photo 2: Transport Crate

During second phase of rescue operation, Assistant Warden of CNP, Sauraha sector, Mr. Abhinaya Pathak led the management team under the supervision of senior officials of CNP. In both phases, logistics of the rescue management team was assisted by National Trust for Nature Conservation, Biodiversity Conservation Center, Sauraha, Chitwan. The members of rescue team representing NTNC-BCC were Program Manager Dr. Chiranjibi Pokharel, Senior Administrative Officer Mr. Ram Kumar Aryal, Research Officer Mr. Baburam Lamichhane, Conservation Officers Mr. Saneer Lamichhane and Mr. Santosh Bhattarai.

Similarly, veterinary team was led by Senior Veterinary Officer Dr. Kamal Prasad Gairhe of Chitwan National Park. He was assisted by Veterinary Assistant Purushotam Pandey of CNP, Veterinary Officer Dr. Amir Sadaula and Veterinary Assistant Kiran Rijal of NTNC-BCC. In addition, dart technicians Mr. Tirth Lama and Mr. Dip Prasad Chaudhary were involved under the direct supervision of veterinary team. Further, in the same fleet, the security personnel involved in the team was handled by Captain Mr. Amod Karki of Triveni Post under the direct command of Battalion commander Lt. Col. Mr. Samundra Thapa of Batukdal Battalion of CNP Protection Unit, Nepal Army. The subordinates from NTNC-BCC and labor team were guided by Sub-engineer Mr. Ananda Thapa of NTNC-BCC. The detail list of the participants of the rescue operations is in the Annex III.

2.3 Phases of Rescue Operation

After preparing the rescue team, it is vital to follow different phases to accomplish the rescue operation in the field. These phases can be categorized into pre-capture, capture, post-capture & release. First of all, it was vital to locate swept rhino, then

management team could only decide if the location would be suitable for tranquilize or not. Tranquilizing the animal nearby river or deep-water source, marshy or swampy area, steeply slopes might be risky. When the animal was located in safe site, then only management team could decide the place for making ramp (i.e., inclined surface to adjust ground level with the backside of vehicle). Once the animal was located in safe site, veterinary team started preparing drugs whereas dart technician became ready to dart the animal. Dart can be done either by sitting on the elephant back or on the branches of a tree or any suitable vantage point. After darting, the animal might run haphazardly that's why rescue team need to keep watching till the animal goes on sedation. As soon as the animal went on sedation, eyes were covered with clean cloth so that foreign objects didn't harm the eyes or any other sensitive organ of the animal. The veterinarian checked temperature, respiration and took the blood samples. Similarly, body measurements were taken and recorded by technician. Then, the animal was dragged on sledge to the crate on truck which was already arranged in the ramp. While in the crate, veterinary team gave antidote to the rescued animal. When the animal became conscious, it was ready for transportation to release site in natural habitat. Regular watering to the rescued animal was done as it is preferable while transporting the animal especially in the hot weather condition.

2.3.1 Pre-capture

Prior mobilizing the technical team, management team of CNP ensured the actual location of swept rhinos in India after discussion with Deputy Director of VTR. It was found that swept rhinos were scattered in small isolated patches of forest and sugarcane field surrounded by dense human settlement. Management team of CNP in close cooperation with Deputy Director of VTR managed the camping sites. Since the rescue operation was going to be conducted in foreign land, it is utmost to get permission to carry out rescue operation which comprehends tranquilization of animal using tranquilizing guns and drugs, elephants, vehicles for immobilization across the Indo-Nepal border. Government of Bihar, Department of Environment & Forest instantly provided permission to management team deputed by Nepal authorities with the tranquilizing guns and necessary drugs, elephants and vehicles for smooth conduction of the rescue operation. The permission letter from the PCCF (HoFF), Bihar (Wildlife Wing) No-Wildlife - 466 Dated 16.8.2017 is in Annex I.

Rescue team from CNP camped in Valmikinagar, VTR, India. A joint team from CNP and VTR was mobilized to search and communicate the exact location of the rhinos. The joint search team used vehicles and elephants to locate rhinos and they were equipped with walkie-talkie. The joint search team followed the fresh foot marks

of the rhinos by walking in the dense shrubs dominated forest and sugarcane field. After locating the rhinos, the joint search team with elephants encircled the animal and the information was passed on to the management team. In order to perform rescue operation effectively, a total of 6 elephants were mobilized from *Giddeni* and *Siswar* elephant camps (*Hattisar*) of CNP.

a



b





c

Photo 3: a,b: Rhino's foot marks at the bank of Narayani river; c: Chunbhatta forest patch which was used by rhino as shelter.

2.3.2 Capture

The capture phase includes darting of the target animal, immobilization of the captured animal, transporting to the crate by using sledge, placing the animal into the transport crate and load in the truck. Interpreting the information as received from joint search team, management team had to decide promptly about the appropriate place for making ramp, use of excavator and tractor, and mobilize labors to arrange sledge and crate.

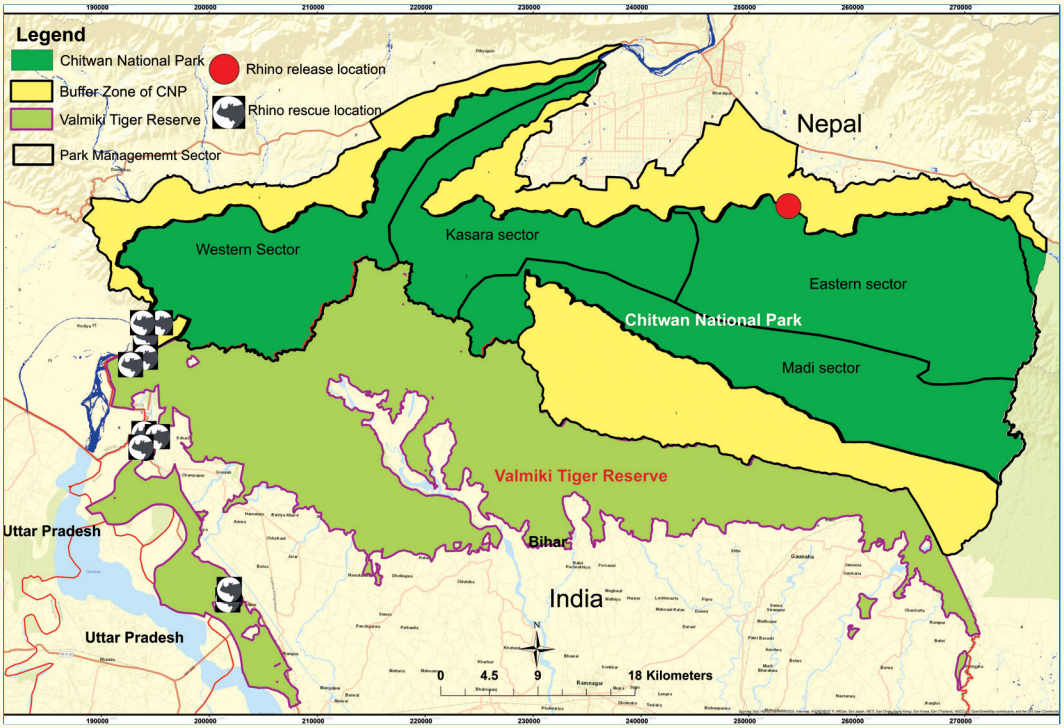


Photo 4: Map of transboundary rhino rescue

Simultaneously, veterinary team had to move immediately with tranquilizing drugs, darting gun and other necessary medicines & equipment. M99 drug was used to tranquilize the rhinos during the rescue operation. Depending on the age and body size of the rhino, 1-3 mg of M99 was applied as tranquilizing drugs. Details of the drugs used during the rescue operation is in Annex II.



Photo 5: Veterinary team preparing drug for rhino rescue

After darting, rhinos normally took 5-15 minutes to went on sedation. Darting technician confirmed either the animal went on sedation or not by lightly beating and slowly touching the animal from back side. After confirmation, the eyes of the animal were covered with clothes, and temperature, respiration and body measurement were taken. Measurements were recorded for each of the rhinos rescued. Then the animal was loaded on the sledge by labor force involved in the rescue and dragged to the crate by tractor. While dragging to the crate, rhino roped on the sledge was balanced by the labor team standing firmly on either side of the dragged sledge catching the ropes entangled in the sedated rhino. After dragging the animal into the transporting crate that was placed on the truck, veterinarian team injected antidote to make the animal conscious.



Photo 6: Loading of the rescued rhino in the truck along with the transporting crate

2.3.3 Post-capture and release

In this phase, rescued rhinos were transported to CNP, Sauraha sector and released to its natural habitat. While transporting the animal, long time holding in a cage on the way to destination could be highly risky. During the transportation of rhinos from VTR to CNP, there were landslides triggered by the heavy rainfall on the Daunne hill side of Nepal and road were damaged in many places from Bardagaht to Gaindakot. There was one way traffic with several kilometers of traffic jammed on the highway. Due to the harsh condition of the road, the team had to avoid the long time holding of the rescued rhinos on the highway. Immediately, management team coordinated and communicated with Nepal Police and Armed Police Force of Nawalparasi District very seriously for facilitating the transportation. The management team got encouraging support from both security agencies and made a swift transportation of the rescued rhinos. All the rescued rhinos from India and Nepal were released at Janakauli buffer zone community forest near Sauraha sector office of CNP. However, one infant male rhino was kept for the close observation in Sauraha sector office of CNP. Close observation was made as infants are unable to survive on their own in the wild condition. The continuous monitoring of the released rhinos was made to observe their adaptation in the new area of similar habitat. Sauraha sector office of CNP was given the responsibility for the regular supervision of the rescued rhinos. Under the sector office command, range post and security posts were engaged to monitor the rhinos during the post release phase. Elephants, vehicle, bicycles, boats, watch towers, trees, or any other vantage points were used for the monitoring of the rhinos.



Photo 7: Release of rescued rhino at Janakauli buffer zone community forest of eastern sector, Chitwan National Park

3. Details of the Rescued Rhinos

First Rhino

This sub-adult female rhino was the first rhino in the history which was rescued from the Bagaha, India on August 17, 2017. The location of this animal was about 45 km south-east from Nepal-India border, the Gandak barrage. The rhino was found in the isolated field of sugarcane of less than half hector. The field was inundated with flood water but the management team decided to tranquilize the rhino because the field was surrounded by dense human settlement and a school nearby. Management team came to know that the rhino was roaming around for three days. After darting, sugarcane stems were placed on the lower part of its mouth to protect its mouth and nose from being plunged into the water. The effective operation time, i.e., time between dart to rise was 1:02 hrs while rescuing the rhino.

Date	Location	GPS coordinates	Sex	Age group	Dart time	Antidote time	Operation time	Rise time
Aug 17, 2017	Bagaha, India	E 84.054968 N 27.126821	F	Sub-adult	17:46	19:20	1:34 hrs	19:25



Photo 8: Field snapshot of the 1st rescued rhino in VTR area

Second Rhino

The second rhino was rescued from isolated patch of Chunbhatta forest of VTR on August 20, 2017. Similarly, third, fifth & eighth rhino were also rescued from this area. Chunbhatta forest lies on the east bank of Gandak River. This isolated patch of Chunbhatta forest was surrounded by road and settlement in East, Gandak river and settlement in West, Gandak irrigation cannel and town (Valmikinagar) in North and settlement & airport in South. The effective operation time for this adult female was 1:39 hrs.

Date	Location	GPS coordinates	Sex	Age group	Dart time	Antidote time	Operation time	Rise time
Aug 20, 2017	Chunbhatta, India	E 83.89390 N 27.42556	F	Adult	17:46	19:20	1:34 hrs	19:25



Photo 9: Field snapshot of the 2nd rescued rhino in VTR area

Third Rhino

This adult female rhino was also rescued from isolated patch of Chunbhatta forest of VTR on August 21, 2017. The effective operation time for this adult female was 1:28 hrs.

Date	Location	GPS coordinates	Sex	Age group	Dart time	Antidote time	Operation time	Rise time
Aug 21, 2017	Chunbhatta, India	E 83.89302 N 27.42742	F	Adult	17:37	18:55	1:18 hrs	19:05



Photo 10: Field snapshot of the 3rd rescued rhino in VTR area

Fourth Rhino

This sub adult male rhino was rescued from east of Jatashankar, VTR on August 22, 2017. Jatashankar is about 3 km north-east from Valmikinagar. There is Ganauli Village in east, Gandak River in the west, Chure (Valmiki Aashram, Nepal) in north and Gandak irrigation channel in south. As the rhino was darted, it ran away and went on sedation on the bushes. There was no way to pull it out by tractor. The rhino was laid on the net and carried on the shoulder by the rescue team to the jeep and later to crate. The effective operation time for the rhino was 01:43 hrs.

Date	Location	GPS coordinates	Sex	Age group	Dart time	Antidote time	Operation time	Rise time
Aug 25, 2017	Chunbhatta, India	E 83.46476 N 27.40637	F	Adult	17:00	18:10	1:10 hrs	18:12



Photo 11: Field snapshot of the 4th rescued rhino in VTR area.

Fifth Rhino

This adult female rhino was rescued from Chunabhatta, forest area on August 25, 2017. The joint search team followed this rhino for three days and was only able to encircle the rhino in Chunbhatta area. The effective operation time for this adult female rhino was 01:12 hrs.

Date	Location	GPS coordinates	Sex	Age group	Dart time	Antidote time	Operation time	Rise time
Aug 25, 2017	Chunbhatta, India	E 83.46476 N 27.40637	F	Adult	17:00	18:10	1:10 hrs	18:12



Photo 12: Field snapshot of the 5th rescued rhino in VTR area

Sixth Rhino

This infant male rhino was rescued from the sugarcane field of Shivarpur Gadhi, Triveni, Nepal on August 26, 2017. This sugarcane field was surrounded by dyke in the east, settlement in the west, north and south. The effective operation time for this infant male rhino was only 28 minutes.

Date	Location	GPS coordinates	Sex	Age group	Dart time	Antidote time	Operation time	Rise time
Aug 26, 2017	Shivapur Gadhi, Nepal	E 83.90759 N 27.45054	M	Infant	11:20	11:45	0:25 hrs	11:48



Photo 13: Field snapshot of the 6th rescued rhino in Valmiki Ashram area, Nepal

Seventh Rhino

The seventh rhino was captured from the sugarcane field of Bhediyari, India on August 31, 2017. Bediyari is about 20 km. south-east from the Indo-Nepal broader, Gandak Barrage. This rhino was very straying. For some time, it was seen in the Chunbhatta area and the next time it was found at the airport area. While following the rhino, an elephant named Shankar Prasad (photo in additional photos section) and a search team member from VTR, Mr. Santosh Yadav were injured on August 30, 2017. The search team followed the rhino for five days and finally able to encircle the rhino in the sugarcane field. The effective operation time for this infant male rhino was 01:16 hrs.

Date	Location	GPS coordinates	Sex	Age group	Dart time	Antidote time	Operation time	Rise time
Aug 21, 2017	Chunbhatta, India	E 83.89302 N 27.42742	F	Adult	17:37	18:55	1:18 hrs	19:05



Photo 14: Field snapshot of the 7th rescued rhino in VTR area, India

Eighth Rhino

This adult female rhino was rescued from the isolated patch of Chunbhatta forest, VTR on September 1, 2017. The effective operation time for the rhino was 02:05 hrs.

Date	Location	GPS coordinates	Sex	Age group	Dart time	Antidote time	Operation time	Rise time
Sep 1, 2017	Chunbhatta, India	E 83.89325 N 27.42792	F	Adult	16:40	18:35	1:55 hrs	18:45



Photo 15: Field snapshot of the 8th rescued rhino in VTR area, India

Ninth Rhino

This adult female rhino was captured at Madanpur, Bihar, India on November 9, 2017. Madanpur is about 35 km south-east from Gandak Barrage. This rescue operation was little bit puzzling. The search team went early in the morning to sugarcane field adjacent to the VTR. They located the rhino but the dense and high foliage of sugarcane made the rescue team clueless. The rescue team made numerous attempts in the sugarcane field to search rhino. Even the dart technicians were positioned on different trees to make accurate dart. But, every time the rhino sneaked away from the sight. After the few tiring hours, the rescue team was finally able to locate and encircled the rhino. The dart technician made the precise dart but right after the dart, the rhino vanished away from everyone's sight arousing lots of worries among the rescuers. Fortunately, after several minutes of search, the rhino was found in

the small stream within the VTR with its nostrils plunged into the water. Without any delay, the rescue team managed the log and placed it right down the mouth to ensure that the nostrils got off from the water immediately. The effective operation time for this adult female rhino was 03:03 hrs.

Date	Location	GPS coordinates	Sex	Age group	Dart time	Antidote time	Operation time	Rise time
Nov 9, 2017	Madanpur, India	E 83.99942 N 30.16741	F	Adult	15:11	18:03	03:03 hrs	18:13



Photo16: Field snapshot of the 9th rescued rhino in VTR area, India

Tenth Rhino

This adult female rhino was rescued from the Piparasi, Bihar, India on November 19, 2017. The Rhino was located on the Island of Piprasi, Bihar, India in the dense sugarcane field of 10 sq.km surrounded by the flooded water from all side. Initially, the reconnaissance team observed the field and took important information for the field action. As per the team discussion and VTR officials' recommendation, the rescue team moved to the spot (i.e., Piprasi of Bihar) through Uttar Pradesh. As mentioned earlier, all the arrangements were assembled. To haul out it from the island, the team planned an innovative idea and used a large wooden boat to transport it from the island. First of its kind, this type of rescue was never ever done before in the history of rescue operation. Though there was high risk from the safety point of the rhino, the plan was implemented precisely and carefully. The rhino was darted inside the

dense sugarcane field, approximately 2-3 km away from the Gandak River. The sledge with the rhino was pulled by tractor to the river bank, loaded into the boat and crossed the Gandak River. In the next side of the river, ramp was constructed for loading into the crate placed on the truck. The effective operation time for the rhino was 02:44 hrs.

Date	Location	GPS coordinates	Sex	Age group	Dart time	Antidote time	Operation time	Rise time
Nov 19, 2017	Piprasi, India	E 84.01417 N 27.23784	F	Adult	15:39	18:13	02:34 hrs	18:23



Photo 17: Field snapshot of the 10th rescued rhino in VTR area, India

Eleventh Rhino

This adult female rhino was rescued from Susta, Nepal on December 16, 2018. The Rhino was sighted in the dense sugarcane field which was surrounded by the settlement. The villagers firstly reported that rhino was roaming in Nepal side. Initially, the reconnaissance team went to observe the field, took important information about the rhino and its movement from key informer, Nepal police and Armed Police forces. About one week later, villagers again informed CNP office that the rhino was in Nepal's land between the settlement. Then, the rescue team was immediately mobilized in the field. When the rescue team reached to the field, the

rhino was surrounded by tractors of the villagers so that rhino could not escape from the Nepal's land to Indian territory. The rhino was darted inside the dense sugarcane field, approximately 1 km away from the Gandak River. The operation was very risky because the darting location was very near to the Indian border on southern side and also near to the Gandak river on northern side. However, the operation completed successfully with high care. The sledge with the rhino was pulled by tractor to the river bank and loaded into the boat and taken across the Gandak River where the ramp was constructed for loading into the truck. The effective operation time for the rhino was 02:10 hrs.

Date	Location	GPS coordinates	Sex	Age group	Dart time	Antidote time	Operation time	Rise time
Dec 16, 2018	Susta, Nepal	E 83.869801 N 27.363078	F	Adult	14:50	17:00	2:10 hrs	18:13



Photo 18: Field snapshot of the 11th rescued rhino in Susta area, Nepal

Twelfth Rhino

This adult female rhino was rescued from Susta–4, Jharlaiya, Nepal on August 4, 2020. Primarily, the Divisional Forest Office, Nawalparasi informed and correspond to Chitwan National Park Office about the rhino sighting around the settlements. The CNP office urged the staff and Army personnel to locate the rhino which is 11-12 Km far from Triveni Post. The rescue team from CNP requested DFO team to make all necessary arrangements along with security and local coordination. The rhino sighted location was completely inundated area and it was very difficult to take decision for

dart. The technical team searched the rhino with elephant and found inside the dense sugarcane field. The rescue team got ready for the dart and darted the rhino at 14:20 PM. The day was very sunny and hot, so it was quite difficult to complete the operation. Due to the waterlogge d area, the rescue team faced tough challenges and took time to drag the rhino on the sledge up to the site where ramp was prepared for loading the rhino into the truck. Finally, the rhino was loaded in to the truck and injected with the anti-dote. It took 1:50 hrs to complete the whole operation.

Date	Location	GPS coordinates	Sex	Age group	Dart time	Antidote time	Operation time	Rise time
Aug 4, 2020	Susta-4, Jharlaiya, Nepal	E 83.869801 N 27.363078	F	Adult	14:20	15:50	1:50 hrs	16:00



Photo 19: Field snapshot of the 12th rescued rhino in Susta area, Nepal

4. Human Resources

Director General of Department of National Parks & Wildlife Conservation, Nepal had regularly coordinated with Principal Chief Conservator of Forest, India and communicated with the field rescue team. Mr. Ram Chandra Kandel, Chief Warden of CNP had regular contact with Mr. S.Chandrasekhar, Field Director of VTR, other concerning authorities and professionals in India. There was a joint team of CNP and

NTNC-BCC in the field operation from Nepal. More than 55 personnel from Nepal, out of which 25 CNP staffs, 20 staffs from NTNC-BCC, 10 hired experienced labors and staffs of CNP protection unit were engaged in the rescue operation in the field. Mr. Amit Kumar, Deputy Director of VTR and Mr. Gaurav Ojha, DFO mobilized the staffs of VTR. In the rescue operation, all together 181 personnel from VTR got involved from different ranges (*Prakshetra)* of VTR. Details of individuals involved in the rescue operation is in Annex III.

5. Financial Resources

A total expenditure for the historical rescue operation of greater one-horned rhinoceros from Indo-Nepal border area to CNP, Nepal was Nepali Rupees 43,59,538.60. These expenses included vehicle hired (truck, tractor, excavator, jeep), labor cost, food, accommodation, communication, DSA to rescuer, fuel, vehicle repair, tools & accessories, food for infant rhino and miscellaneous. Up on the request from Chitwan National Park, NTNC-BCC managed these expenses. Details of expenditure is in Annex IV.

6. Conclusion and Recommendation

The successful rescue operation of washed away rhinos from Indo-Nepal border is an epitome of transboundary cooperation and coordination. This is a result of long term transborder cooperation for biodiversity conservation between two neighboring countries. This is also instance of team work of individuals representing different organizations. It is evident that park authority should always remain alert and get prepared for any kind of catastrophic incidences and their unprecedented consequences. The park office must have experience team, medicines, accessories and equipment in place and well maintained. Nevertheless, it can be clearly inferred that all the protected areas should have well-trained second-generation staff to handle wildlife in unaccustomed situation. In a nutshell, it is crucial to institutionalize the success achieved in transborder cooperation and co-ordination between the authorities of protected areas in India and Nepal and move forward with innovative and constructive collaboration for the conservation of biodiversity.

Annexes

Annex I: Permission from Government of Bihar, India to carry out operation

E-mail

Government of Bihar
Department of Environment & Forests
O/o Principal Chief Conservation of Forests (HoFF), Bihar
(Wildlife Wing)

No-Wildlife - 466 Date 16.8.2017

Operation for Translocation of Rhinoceros from Valmiki Tiger Reserve - Permission reg.

Due to the severe floods since 11 August 2017 caused by heavy rains on both sides of Indo-Nepal border and more copious downpour in the catchments in Nepal, several Rhinoceroes of Chitwan National Park and adjoining areas in Nepal have moved down south in West Champaran districts in Bihar in the Valmiki Tiger Reserve (VTR) and adjoining habitation and agricultural tracts and a few Rhinoceroes have even moved further up to villages south of Bagaha town. The field formation of VTR is undertaking all measures to prevent any encounters with human population and avert conflicts and casualties. The concerned Wildlife and Forest authorities of Nepal and Chitwan N P have been contacted for deploying expert teams to conduct joint operations with VTR authorities to retrieve the stray Rhinos and take them back to their original home ranges in Nepal. The situation requires expeditious and swift execution of the task so as to pre-empt any conflict and casualty of injury, loss of property or life.

In view of the emergency situation warranting immediate action for safeguarding human life and property and also protecting the stray Rhinoceroes, the authorities regulating the transboundary movements across Indo-Nepal border in West Champaran district are hereby requested to provide the necessary cooperation and instant permissions for the contingent teams deputed by Nepal authorities with equipment - tranquilising guns and necessary drugs etc., vehicles and elephants for smooth conduct of joint operations.

Bharat
(Bharat Jyoti)
APCCF & Chief Wildlife Warden, Bihar

To

1. District Magistrate, W. Champaran, Bettiah
2. Superintendent of Police, Bagaha, West Champaran
3. Commandant, Seema Suraksha Bal (SSB), Bagaha, West Champaran
4. Deputy Inspector General, Seema Suraksha Bal (SSB), Bettiah
5. Superintendent, Customs and Excise Department, Valmikinagar / Assistant
6. Commissioner, Customs and Excise Department, Bettiah

Copy for information and necessary action:

1. Additional Director General & Member Secretary, National Tiger Conservation Authority, Ministry of Environment, Forests & Climate Change, Govt. of India, CGO Complex, Lodhi Road, New Delhi - 110003
2. Inspector General, Seema Suraksha Bal (SSB), Patna
3. Chief Conservation Officer, Chitwan National Park, Chitwan, Nepal
4. Director, Ecology & Environment, Patna
5. CF cum Field Director, Valmiki Tiger Reserve, W. Champaran, Bettiah.
6. DFO cum Dy. Director, VTR, Division I and Division II, Bettiah, W. Champaran

CC: Principal Secretary, Deptt. of Environment & Forests, Govt. of Bihar, Patna

4th Floor, Aranya Bhawan, Shahid Pir Ali Khan Marg, P.O.-Veterinary College, Patna-800014
email: cwlwbihar@rediffmail.com; Mob. : 08986153134

Annex II: Details of drug used in rhino rescue operation

S.No.	M99 (mg)	ACP (mg)	Dart Date and time	Added M99 (mg, i/v)	Time	Antidote time	Amount 12 mg/ml	Rise time	Temp.°F	Resp.
1st Rhino	2	8	17:50	-	-	18:42	0.5 ml i/m	18:52	99.8	8/m
2nd Rhino	3	10	17:46	1	7:04	19:20	1.7 ml i.v	19:25	102.0	9/m
3rd Rhino	3	12	17:37	1.5	5:50	18:55	1.5 ml i/v	19:05	99.1	7/m
4th Rhino	1.5	6	11:45	0.5	1:15	13:25	0.5 ml i/v	13:28	99.1	8/m
5th Rhino	3	12	17:00	1	5:35	18:10	1 ml i/v	18:12	102.7	20/m
6th Rhino	1	5	11:20	-	-	11:45	0.3 ml i/v	11:48	100	8/m
7th Rhino	3	12	13:45	1	2:10	14:58	1 ml i/v	15:01	98.3	11/m
8th Rhino	3	12	16:40	1	6:05	18:35	1.5 ml i/m	18:45	99.5	12/m
						18:43	0.5 ml i/m			
9th Rhino	3	12	15:11	3 mg iv (1mg each At 5:58,16:45,17:39)		18:03	1.7 ml i.v	18:07	98.0	12/m
10th Rhino	3	12	15:39	2 mg (1 mg each at 16:32 and 17:20)		18:13	1.5 ml i.v.	18:17	99.2	10/m
Total M99 (mg)	25.5			11 mg						

Note: Rhino 8 trembled after crating before giving antidote. 5 ml (100 mg) doxapram was also given i/m in the crate. Additional darts (1.5 mg M99, 6 mg ACP at 5:45; 2mg M99, 5 mg ACP) at 5:40 did not pass well. Hence assessment of sedation was difficult. Rhino at Piprasi was also transported on a boat across the Gandak river.

Expense	25.5mg
Added amount	11mg
M99 wasted	9.5mg plus 4 mg at Kyeuleni, Tribeni=13.5 mg
Total M99 expense	50.0 mg (1 vial)

Annex III: Participants name list of rhino rescue operation

S.N	Name	S.N	Name
Coordination and Communication			
1	Mr. Ram Chandra Kandel, Chief Warden, CNP	1	Dr. Chiranjibi Prasad Pokheral, Project Manager, NTNC-BCC
Field Team, CNP			**Field Team NTNC-BCC**
2	Dr. Kamal Prasad Gairhe	2	Mr. Ram Kumar Aryal
3	Mr. Nurendra Aryal	3	Mr. Saneer Lamichhane
4	Mr. Abhinaya Pathak	4	Mr. Santosh BhatTerai
5	Mr. Binaya Mishra	5	Dr. Amir Sadaula
6	Mr. Purusotam Pandey	6	Mr. Harkaman Lama
7	Mr. Laxman Raya	7	Mr. Bishnu Lama
8	Mr. Sushil Jha	8	Mr. Ananda Ram Thapa

9	Mr. Pramod Rawat	9	Mr. Kiran Rijal
10	Mr. Mungre Bote	10	Mr. Raju Chaudhary
11	Mr. Gopal Kurmi	11	Mr. Tirtha Lama
12	Mr. Shiva Poudel	12	Mr. Tika Ram Tharu
13	Mr. Ananda Prasad Subedi	13	Mr. Dip Prasad Chaudhary
14	Mr. Suresh Tamang	14	Mr. Om Prakash Chaudhary
15	Mr. Jannu Mahato	15	Mr. Suk Bahadur Kumal
16	Mr. Shivadutta Chaudhary	16	Mr. Deepak Shreewastab
17	Mr. Paltan Tharu	17	Mr. Buddi Ram Kumal
18	Mr. Sikha Chaudhary	18	Mr. Aita Ram Tamang
19	Mr. Rabin Chaudhary	19	Mr. Tulku Lama
20	Mr. Manilal Chaudhary	20	Mr. Ram Prasad Joshi
21	Mr. Bijaya Mahato		
22	Mr. Jay Prakash Chaudhary		
24	Mr. Ajay Chaudhary		
25	Mr. Manoj Chaudhary		

S.N	**Name**	**S.N**	**Name**
Coordination and Communication			
Mr. Amit Kumar, Deputy Director, VTR Mr. Gaurav Ojha, DFO, Division 2, VTR			
Field Team, VTR (from 5 ranges "Prakshetra" of VTR Division 2)			
1. Valmikinagar Range "Prakshetra"			
1	Mr. Juned Aalam	19	Mr. Laxmi Mahato
2	Mr. Mundika Prasad Yadav	20	Mr. Motilal Mahato
3	Mr. Sunil Ram	21	Mr. Harendra Yadav
4	Mr. Amaresh Chaudhary	22	Mr. Sakil Aalam
5	Mr. Bhulawan Chaudhary	23	Mr. Dev Narayan Mahato
6	Mr. Din Dayal Ram	24	Mr. Arvinda Kumar
7	Mr. SanjayaYadav	25	Mr. Anil Kumar Yadav
8	Mr. Bachchan Ram	26	Mr. Yogendra Prasad Baidha
9	Mr. Brijesh Yadav	27	Mr. Raju Kumar Yadav
10	Mr. Nijamuddhin Ansari	28	Mr. Pawan Kumar Singh
11	Mr. Krishna Mohan Kumar	29	Mr. Madibhusan Kumar
12	Mr. Seshnath Bhagat	30	Mr. Prabhu Ram
13	Mr. Rameshwor Kaji	31	Mr. Ajay Kumar Das
14	Mr. Surajlal Kushsawaha	32	Mr. Motilal Yadav

15	Mr. Amar Mahato	33	Mr. Jitendra Sah
16	Mr. Ritesh Kumar	34	Mr. Munna Kumar
17	Mr. Bijaya Rawat	35	Mr. Mukesh Kumar
18	Mr. Devendra Kumar	36	Mr. Binachal Kumar
2. Harnatand Range "Prakshetra"		**4. Madanpur Range "Prakshetra"**	
1	Mr. Sunil Kumar	1	Mr. Santosh Kumar Prabhari
2	Mr. Raju Yadav	2	Mr. Suraj Ram
3	Mr. Mahesh Kaji	3	Mr. Achhelal Yadav
4	Mr. Sambhu Yadav	4	Mr. Abhaya Kumar Ram
5	Mr. Dhela Miya	5	Mr. Dhanesh Yadav
6	Mr. Rihku Ram	6	Mr. Ram Psravesh Yadav
7	Mr. Prem Narayan Mahato	7	Mr. Mukesh Chaudhary
8	Mr. Yogendra Mahato	8	Mr. Prashuram Yadav
9	Mr. Manib Kumar Ram	9	Mr. Anirudh Sah
10	Mr. Khemraj Kaji	10	Mr. Utim Ram
11	Mr. Dinanath Urahb	11	Mr. Chandra Man Yadav
12	Mr. Guddu Yadav	12	Mr. Sunil Kumar Yadav
13	Mr. Mallu Yadav	13	Mr. Jitendra Kumar Kushwaha
14	Mr. Bacchalal Mahato	14	Mr. Kummaresh Yadav
15	Mr. Satrudhan Mahato	15	Mr. Mahesh Yadav
16	Mr. Mohan Mojhi	16	Mr. Mesghanth Chaudhary
17	Mr. Parasnath Kaji	17	Mr. Suraj Kumar Sahani
18	Mr. Sitaram Yadav	18	Mr. Ram Naresh Dube
19	Mr. Rajesh Musahar	19	Mr. Rajesh Mahato
20	Mr. Badu Nisadhi	20	Mr. Subash Yadav
21	Mr. Ramakanta Ram	21	Mr. Devraj Sahani
22	Mr. Satya Narayan Mahato	22	Mr. Seshnath Chaudhary
3. Ganauli Range "Prakshetra"		23	Mr. Lalan Kumar
1	Mr. Swadeshwor Prasad Singh	24	Mr. Suresh Yadav
2	Mr. Prabhakar Kumar Singh	25	Mr. Shivapujan Nisad
3	Mr. Arvinda Kumar Singh	26	Mr. Sanjur Ansari
4	Mr. Bishwas Mardaniya	27	Mr. Mansur Ansari
5	Mr. Nagendra Mahato	**5. Chiutaha Range "Prakshetra"**	
6	Mr. Prabhakar Kumar Shreewastab	1	Mr. Mahesh Prasad
7	Mr. LalKishwor Chaurasiya	2	Mr. Anil Kumar Sinha
8	Mr. Chabilal Prasad	3	Mr. Bijaya Prasad
9	Mr. Satrudhan Ram	4	Mr. Dipak Kumar

10	Mr. Manoj Dhogad	5	Mr. Mahatab Aalam
11	Mr. Manoj Paswan	6	Mr. Munna Yadav
12	Mr. Seju Mahato	7	Mr. Mohan Yadav
13	Mr. Arjun Ram	8	Mr. Amarnath Ydav
14	Mr. Kamlesh Paswan	9	Mr. Sunil Yadav
15	Mr. Dhanraj Musahar	10	Mr. Sawakesh Yadav
16	Mr. Pashupati Kumar	11	Mr. Naresh Paswan
17	Mr. Sagar Kumar	12	Mr. Anup Pandey
18	Mr. Kibhun Kaji	13	Mr. Pramod Raj
19	Mr. Ramnath Mahato	14	Mr. Rajkumar Kushwaha
20	Mr. Bodha Mahato	15	Mr. Kapil Urawa
21	Mr. Tribeni Musahar	16	Mr. Tetar Mahato
22	Mr. Nagendra Prasad	17	Mr. Bipin Yadav
23	Mr. Gaurav Kumar	18	Mr. Mohan Yadav
24	Mr. Prabhu Prasad	19	Mr. Ranjit Urawa
25	Mr. Chotelal Yadav	20	Mr. Ramdev Pandit
26	Mr. Birendra Kaji	21	Mr. Dhurva Narayan Ram
27	Mr. Om Prakash Mahato	22	Mr. Om Prakash Yadav
28	Mr. Jay Kumar Mahato	23	Mr. Nejam Miya
29	Mr. Jitendra Kumar	24	Mr. Chandan Urawa
30	Mr. Sanjeev Shreewastab	25	Mr. Chandan Urawa
31	Mr. Baliram Mahato	26	Mr. Chandra Shekhar Kumar Bharati
32	Mr. Laxman Musahar	27	Mr. Dudhnath Ram
33	Mr. Chandraman Prasad	28	Mr. Kamlesh Kushwaha
34	Mr. Dhanjesh Kumar	29	Mr. Rakesh Bin
35	Mr. Anil Majhi	30	Mr. Dharmendra Yadav
36	Mr. Dhanshyam Mahato	31	Mr. Ram Sewak Kaji
37	Mr. Mahendra Majhi	32	Mr. Kishun Kumar Chaudhary
38	Mr. Kamlesh Kumar	33	Mr. Sunil Yadav
39	Mr. Nagendra Mahato	34	Mr. Santosh Kumar
40	Mr. Nanda Kishwor Yadav	35	Mr. Jawahar Paswan
41	Mr. Jitendra Mahato	36	Mr. Birendra Ram
42	Mr. Hemlal Mahato	37	Mr. Akhilesh Kumar Shreewastab
43	Mr. Chotelal Urawa	38	Mr. Rajesh Kumar Yadav
44	Mr. Dinanath Mahato	39	Mr. Rishiraj Mahato
45	Mr. Rajesh Mahato	40	Mr. Raju Kumar Pandit
46	Mr. Suresh Majhi	41	Mr. Amit Kaji

47	Mr. Birendra Mahato	42	Mr. Binod Mahato
48	Mr. Binod Kumar	43	Mr. Devananda Ram
49	Mr. Raju Mahato		
50	Mr. Om Prakash Sah		
51	Mr. Om Praskah Kaji		

Labors from Nepal

1	Mr. Budhan Chaudhary	6	Mr. Basna Chaudhary
2	Mr. Santa Kumar Chaudhary	7	Mr. Bikram Chaudhary
3	Mr. Jiyan Chaudhary	8	Mr. Dilip Chaudhary
4	Mr. Sunil Chaudhary	9	Mr. Upendra Kachhadiya
5	Mr. Man Kumar Chaudhary	10	Mr. Roshan Chaudhary

Annex IV: Financial aspect of rhino rescue operation

S. N.	Accounts Head	Amount	Remarks
1	DSA to staffs	1,572,375.00	
2	Labour Cost	250,205.00	
3	Vehicle hired	994,855.00	
4	Food Expenses	1,018,616.00	
5	Tools /Accessories	29,397.00	
6	Communication	13,400.00	
7	Fuel	179,724.81	
8	Vehicle repair	2,720.00	
9	Miscellaneous	32,610.00	
10	Accomodation	136,858.08	Accommodation of VTR guests, Accommodation cost of MoFSC, DNPWC team
11	Medicine for dart (drugs and syring)	23,176.00	
12	Food Expenses for Rhino Baby	105,602.00	
	Total	**4,359,538.89**	

Additional photos of rescue operation

Media Coverage: Nepali Media

धमाधम गैंडाको उद्धार



तीन महिना पुगेको गैंडाको बच्चा। ● अनिल ढकाल

सौराहा (अन्नपूर्ण) : चितवन राष्ट्रिय निकुञ्जबाट बाढीले बगाएको गैंडाको बच्चाको शनिवार उद्धार भएको छ।

बाढीले त्रिवेणी पूर्वाएको उक्त गैंडालाई उद्धारपछि उद्धार गरी राष्ट्रिय प्रकृति संरक्षण कोषमा राखिएको छ। स्थानीयले उद्धारीमा गैंडा रहेको खबर दिएका थिए। निकुञ्ज र कोषको प्राविधिक सम्मिलित टोलीले गैंडाको उद्धार गरेको।

अब दुई वर्षसम्म पालनपोषण गरिने कोषका वरिष्ठ प्रशासकीय अधिकृत रामकुमार अर्यालले जानकारी दिए। 'गैंडा सानो भएकाले यत्तिकैमा जंगलमा छाड्दा उसलाई खतरा छ', उनले भने।

शनिवार बिहानै भारतबाट उद्धार गरिएको वयस्क पोथी गैंडालाई भने जंगलमा छाडिएको छ। बाढीले बगाएका ६ वटा गैंडाको उद्धार भइसकेको निकुञ्जले जनाएको छ।



दश दिनमा बढीले बगाएका ६ गैंडाको उद्धार, अझै भारतमा गैंडाको खोजीमा छन् नेपालका प्राविधिक...

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Four rescued rhinos released in CNP

Himalayan News Service

Chitwan, August 24

Four rhinos from Chitwan National Park that had been swept away in the monsoon floods last week were rescued in India and subsequently brought back to the national park today.

The rhinos were brought back to Nepal in coordination with Indian state authorities. "Four rhinos, three males and one female, which were recovered in India have been brought back and released in Chitwan National Park," said Assistant Conservation Officer at CNP Nurendra Aryal. Three of the rhinos were recovered from Balmiki Tiger Reserve, while the fourth was rescued from Bagaha, 42 km away from Balmiki Nagar of the southern neighbouring country.

According to Aryal, two more rhinos were rescued from the reserve today and attempts to bring them back to Nepal are under way.

A team of 40 members, including technicians and other staffers from Nepal and as many as 200 state officials of India have been preparing to bring the animals back to Nepal. Three elephants from Dibyapuri and Lamichaur of Nawalparasi region of the national parks were used to take the rhinos under control.

Meanwhile, Aryal said that rhinos have also been swept away to other parts of the country during the floods.

Three rhinos have been recovered, one each from Narsahi of Nawalparasi, Triveni Madhyabarti Community Forest and Balmiki Ashram. "Those rhinos will also be brought back to the national park after the water level recedes.

Security personnel have been deployed for the protection of the rare species," said Aryal.

Earlier, the body of a rhino was found on the banks of a river at Triveni while another injured rhino, which was recovered from Kumroj Community Forest, died in the course of treatment in CNP yesterday.



This file photo shows a rhino, which was swept away in recent floods from Chitwan National Park, being rescued from Balmiki Tiger Reserve in India.

Media Coverage: Indian Media

07 • कुशीनगर • गोरखपुर • 22 अगस्त 2017 • हिन्दुस्तान आज का दिन 1962 में

चार गैंडों में से तीन गेंडों को पकड़ने में मिली वन विभाग को कामयाबी

जारी है शावक गैंडे की खोज

मदनपुर में बनेगा गैंडा अधिवास क्षेत्र

वाल्मीकिनगर | एक प्रतिनिधि

वाल्मीकि टाइगर रिजर्व में चितवन नेपाल से बाढ़ के पानी में बह आये चार गैंडो में से सोमवार को तीन गैंडो को भी पकड़ लिया गया। अन्य शावक गैंडा अभी बीटीआर के जंगलो में छिपा है।

सिसवा खोरन को लेकर वन विभाग की द्वारा रेस्क्यू ऑपरेशन जारी है। सोमवार को शाम वाल्मीकि टाइगर रिजर्व के वाल्मीकिनगर वन क्षेत्र के जटाशंकर वन परिसर में तीसरे मादा गैंडा को पकड़ने में वन विभाग की रेस्क्यू टीम को कामयाबी मिली। इस बावत जानकारी देते हुये फील्ड डिरेक्टर एस.चन्द्रशेखरन ने बताया कि पड़ोसी देश नेपाल के चितवन नेशनल पार्क से सटे वाल्मीकिनगर वन क्षेत्र के जटाशंकर वन परिसर के त्रिवेणी कछ संख्या-2 में नेपाल के वन अधिकारी एवं वाल्मीकि टाइगर रिजर्व के अधिकारियों ने संयुक्त रूप से सर्च ऑपरेशन चलाकर उक्त मादा गैंडा को पकड़ा गया। तीनो गैंडा पिछले एक सप्ताह से बीटीआर के विभिन्न क्षेत्रों में डेरा डाले थे। इस रेस्क्यू ऑपरेशन का नेतृत्व वन प्रमंडल-2 के डी.एफ.ओ अमित कुमार, वन प्रमंडल-1 के डी.एफ.ओ नीरज ओझा के साथ वाल्मीकिनगर वन क्षेत्र के रेंजर आलोक सिन्हा, वनपाल बीके पाठक, वनरक्षी अभिषेक मिश्रा के साथ पहुंचे देश नेपाल के चितवन नेशनल पार्क के वन अधिकारी व कर्मचारी शामिल थे। पकड़े गये गैंडा को नेपाली वन प्रशासन को सौंप दिया गया है उस गेंडा को नेपाल भेजने की कार्रवाई की जा रही है।

कवायद शुरू

- जंगल सफारी में दिखेगा गैंडा मदनपुर वन क्षेत्र में
- वन विभाग की ओर से गैंडा रखने के लिए शुरू हुई कवायद
- गैंडा अधिवास के लिए मदनपुर वन क्षेत्र का भेजा गया प्रस्ताव

क्षेत्र के वनस्पति व घास को प्रजाति गैंडो के लिए उपयुक्त है। वन्य जीव संस्थान देहरादून के डॉ. विभाष पांडो तथा उनके सिपर्ट इंडिट सवाहर को चौधरे की प्रक्रिया पूरी कर ली जायेगी। अगर सबकुछ ठीक रहा तो दुधवा नेशनल पार्क भूपी की तर्ज पर बीटीआर में आने वाले पर्यटकों को खुली आंखों से खुले जंगल में जंगल सफारी द्वारा गैंडा देखने का अवसर मिलेगा।



सोमवार को तीसरे नेपाली गैंडे को कब्जे में करने का प्रयास करते वन अधिकारी।

विशाल मिश्रा कर रहे थे। अब एक मात्र बचे शावक मादा गैंडा की खोजबीन जोड़ों से की जा रही है। गौरतलब हो कि विगत देश नेपाल से आये मेहमान गैंडो को यहां रखा गया है वाल्मीकि टाइगर रिजर्व का जंगल रेखा प्रतित होता है।

भारी मशक्कत के बाद रविवार को देर शाम पकड़े गये विशाल गैंडा के बाद अब बाकी बचे दो गैंडो को ले जाने के लिये नेपाल वन प्रशासन एवं डी टी आर विशार के वन प्रशासन की संयुक्त कार्रवाई सोमवार की सुबह से ही चल रही है। प्राप्त जानकारी के अनुसार डी.टी.आर के जटाशंकर वन परिसर के त्रिवेणी के कछ संख्या एक 40 के विशालकाय नाल के समीप शावक मादा गैण्डा मिला। चितवन राष्ट्रीय निकुंज से आये डीसीलाख के टैटूलाईजर दल द्वारा शावक मादा गैण्डा पर शूट की। लेकिन गैण्डा बेहोश नहीं हो सका। फलक झपकते ही उक्त गैण्डा नलेही मंदिर के समीप बरसाघाटी जंगल की ओर चल पड़ा। भारत-नेपाल के वन अधिकारियों की टीम संयुक्त रूप से नाकेबंदी करके सुरक्षित उक्त दोनो गैंडो को नेपाल ले जाने हेतु प्रयासरत थे। काफी मशक्कत के बाद सोमवार की शाम में तीसरा नेपाली गैंड वनकर्मियों की पकड में आया। अभी भी एक शावक गैंडा जंगल में छिपा है।

चुनभट्टा में रेस्क्यू कर पकड़ा गया आठवां गैंडा

वाल्मीकिनगर | एसं/एप्र

शुक्रवार की शाम बीटीआर के वाल्मीकिनगर वनक्षेत्र के चुनभट्टा जंगल मे वीटीआर व नेपाली वनकर्मियों की संयुक्त टीम ने एक और आठवां गैंडे को रेस्क्यू कर पकड़ लिया। इस गैंडे को पकड़ने के लिए संयुक्त टीम के अधिकारी व कर्मचारी वाल्मीकिनगर वन क्षेत्र के चुनभट्टा जंगल में रेस्क्यू अभियान चला रहे थे।

इस कार्रवाई की जानकारी देते हुए रेस्क्यू की मॉनेटिरिंग कर रहे वन प्रमंडल दो के डीएफओ अमित कुमार ने बताया कि यह गैंडा वाल्मीकिनगर वनक्षेत्र के चुनभट्टा जंगल चहलकदमी कर रहा था और रेस्क्यू टीम इस गेंडे को पकड़ने के लिए लगी थी। डीएफओ ने बताया कि यह टीम ने अब तक एक पखवाड़े के अंदर वीटीआर क्षेत्र से आठवां गैंडा को पकड़ डाले गेंडा को पकड़ने के लिए रेस्क्यू अभियान मे वाल्मीकिनगर वन क्षेत्र के रेंज अफसर आर के सिन्हा , वनपाल बीके पाठक ,वनरक्षी अभिषेक मिश्रा आदि मदनपुर ,वाल्मीकिनगर ,गोनौली ,चीउटाहा,हरनाटांड़ के टीटी,पी पी, वनकर्मी ,होमगार्ड जवान ,सैफ जवान तथा नेपाल के चीतवन नेशनल पार्क के वन अधिकारी व कर्मचारी शामिल थे। पकड़े इस गैंडा को नेपाली वन प्रशासन को सौंप दिया गया है उस गेंडा को नेपाल भेजने की कार्रवाई की जा रही हैं।

फोटोग्राफी कार्य शुरुःपिपरासी । प्रखंड में फसल क्षति मुआवजा देने के लिए कृषि कर्मियों द्वारा फोटोग्राफी का कार्य शुरू कर दिया गया है। बीएओ विद्यानंद सिंह ने बताया कि कृषि सलाहकार नंद कुमार तथा रियाजुद्दीन अली के द्वारा फोटोग्राफी भगड़वा व मुडाडीह पंचायत में मौके पर पहुंचकर



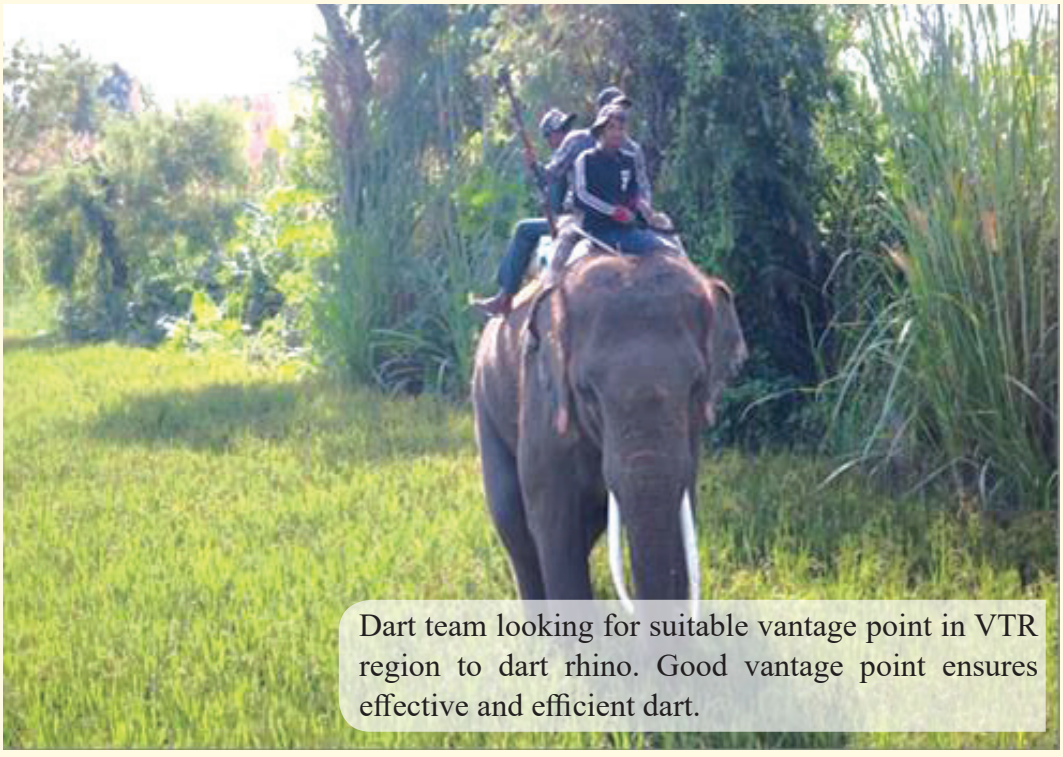
Joint rescue team discussing about the implementation of plan



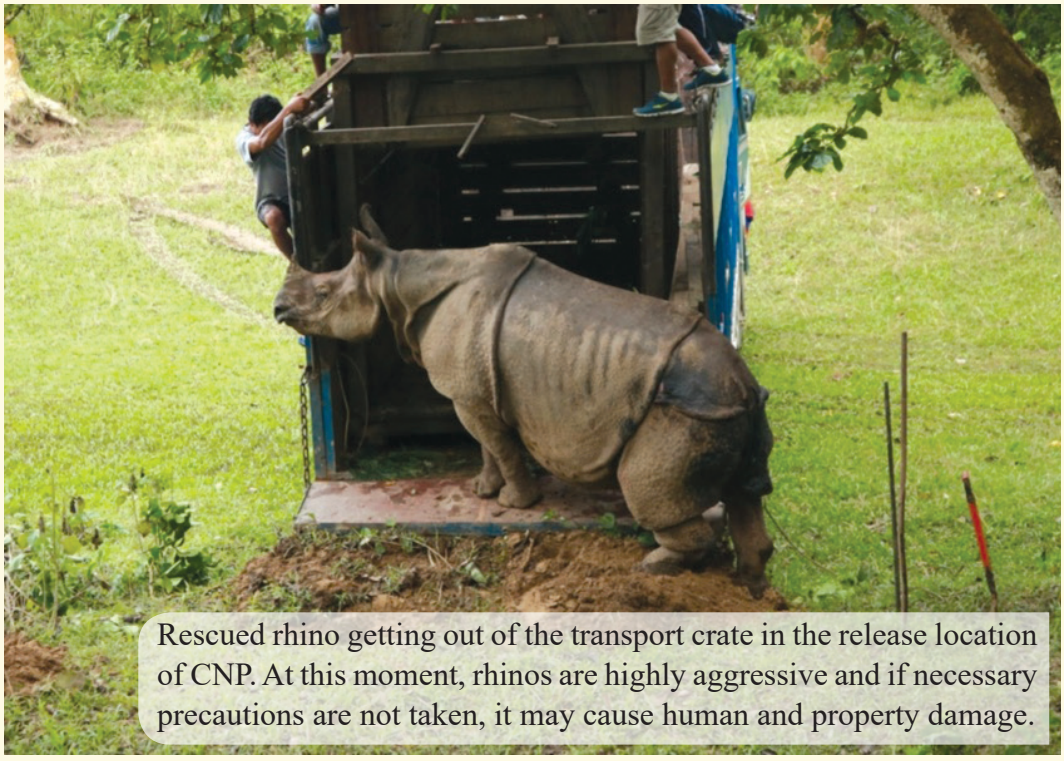
Rescue and search team discussing with local people at Sohagi Barava, Maharajjang, Uttar Pradesh, India



Local crowd during the rhino rescue operation. Crowd management is one of the crucial components of any rescue operation.



Dart team looking for suitable vantage point in VTR region to dart rhino. Good vantage point ensures effective and efficient dart.



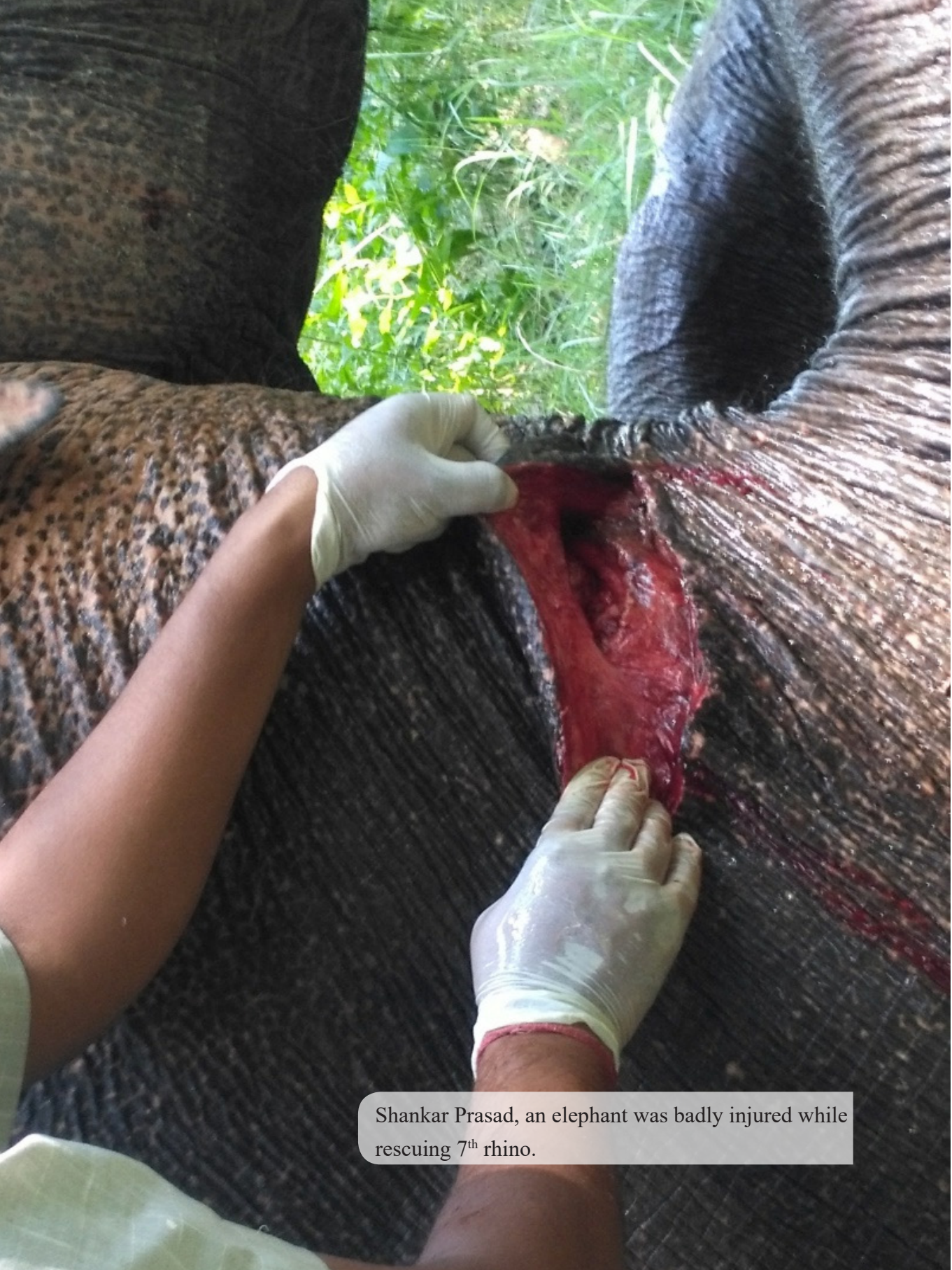
Rescued rhino getting out of the transport crate in the release location of CNP. At this moment, rhinos are highly aggressive and if necessary precautions are not taken, it may cause human and property damage.



Rescued rhino crossing the river *(Dhungre Khola)* towards CNP core area adjacent to release location. It is better if the rescued rhinos are directed towards natural habitat region.



Joint search team trying to locate rhino by observing the rhino foot marks



Shankar Prasad, an elephant was badly injured while rescuing 7th rhino.



Government of Nepal
Ministry of Forests and Environment
Department of National Parks and Wildlife Conservation
Babarmahal, Kathmandu, Nepal
Tel.: 01-5320912, 01-5320850, Email: info@dnpwc.gov.np
Website: www.dnpwc.gov.np