

Conservation Status of Great Indian One-Horned Rhinoceros (*Rhinoceros unicornis*) Found in Kaziranga National Park, Assam, India: A Review on Challenges and Current Efforts

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ABSTRACT

The greater one-horned rhinoceros (*Rhinoceros unicornis*) of Assam's Kaziranga National Park is one of the most iconic wildlife species found in the entire world. It is commonly found in Assam, Nepal, Bhutan and Pakistan. The population of rhinos in Assam is nearly 2895 out of which 2613 of them are concentrated in the Kaziranga National Park. It is confined to the forests and tall grasslands in the foothills of the Himalayas. It is an excellent swimmer and can run at speeds of up to 25 mph (40 km/h) for short intervals of time. It has a relatively poor eyesight but excellent senses of olfaction and hearing. Due to the massive conservation efforts, the poaching of the iconic *Rhinoceros unicornis* has reduced considerably bringing its status from 'endangered' to 'vulnerable' in 2008.

Key words: *Rhinoceros unicornis*, Conservation, Poaching, Kaziranga National Park, Assam

Introduction

Rhinoceros unicornis, also known as the greater one-horned rhinoceros/Indian rhinoceros resides in the adjacent riverine forests and the floodplain grasslands of Northeast India and Southern Nepal. It is amongst one of the highly threatened large mammals in South East Asia and South Asia (Rookmaaker *et al.*, 2016). These rhino populations are highly threatened due to degradation and loss of available habitats and uncontrolled poaching (Rookmaaker, 2016). Poaching is mainly caused using electrocution, gunshots and pit poaching; poisoning is caused by strangulation and spearing, pesticides/rat poison/ zinc phosphide; natural causes such as ageing and diseases, predation and floods and livestock grazing may also destroy the grass-

lands (Talukdar, 2000). Presently, *Rhinoceros unicornis* is confined in the protected areas of India and Nepal in the grassland patches and in a few fragmented forests (Rookmaaker *et al.*, 2016).

The state of Assam has a strong hold of the *Rhinoceros unicornis* population (Talukdar, 2000). Approximately, 75% of rhinos are found in Assam and via captive breeding, the state has set a successful example in rhino conservation (Vigne and Martin, 1994). However, on the International Union for Conservation of Nature (IUCN) Red List, *Rhinoceros unicornis* are presently classified as vulnerable. Currently, three species of Asian rhino: the Indian/greater one-horned Asian rhino, the Javan/lesser one-horned Asian rhino and the Sumatran/Asian two-horned rhino are critically endangered. Human encroachment is resulting in human-wildlife conflict

and ever decreasing habitat for wildlife. In recent years, a growing concern has been the ever increasing human-wildlife conflicts and poaching (DNPWC, 2016 and 2017; Sedhain and Adhikary, 2016; Pant *et al.*, 2019). Thus in order to conserve this iconic asset of Assam, it is imperative to put conservative strategies and appropriate policies into quick action before it is too late. This paper intends to present the distribution and current status of *Rhinoceros unicornis* and potential challenges and current efforts to conserve this iconic species.

Materials and Methods

For this review study, most of the literature search had been conducted from different journals and databases including Google Scholar, Research Gate, Science Direct and other authentic websites. The main objective of this review study is to identify the conservation status and current efforts so as to conserve *Rhinoceros unicornis* in Assam. The literature surveyed was systematically reviewed to obtain logical results and discussion.

Results and Discussion

Current Status and Distribution of *Rhinoceros unicornis* in Kaziranga National Park, Assam, India

The Kaziranga National Park bears one of the most successful stories of conservation of *Rhinoceros unicornis* in the entire world. It was in 1908 when Kaziranga was declared a forest reserve with a population of merely dozen rhinos. The population of rhinos in Assam has now flourished to nearly 2895 out of which 2613 of them are concentrated in the Kaziranga National Park. It comprises of 1641 adult rhinos (642 males, 793 females and 206 neutered); 387 sub-adults (116 males, 149 females, 122 neutered) and 385 calves. This information was according to the census conducted by the Government of Assam, Department of Forests and some recognized wildlife NGOs in March 2018 (Dutt and Anonna, 2018). This park, which now hosts two-thirds of the world's *Rhinoceros unicornis* is declared as a UNESCO World Heritage Site (Bhaumik and Subir, 2007).

Conservation Threats and Challenges of *Rhinoceros unicornis* in Kaziranga National Park, Assam, India

Amongst the major threats, poaching and illegal

trade of rhino horns accounted for 19% and 9%, respectively (MoFSC, 2017). Large extents of rhino habitats were converted into agricultural land during 1950s and 1960s leading to habitat loss and degradation (Laurie, 1982). On the contrary, retaliatory killing of rhinos using electrocution and poison has also led to Human-Rhinoceros Conflicts (Acharya *et al.*, 2016; DNPWC, 2017). Accidents in the highways have also led to a significant decrease in the rhino population (DNPWC, 2017). Natural disasters and climate change are emerging as one of the prominent threats to conservation of biodiversity (DNPWC, 2017). In the buffer zones, invasive/alien species encroach the community forests and potential rhino habitats (DNPWC, 2009). To establish a viable population, it was thus recommended to have a minimum of 50 individual rhinos (IUCN, 1997).

Current Efforts for Conservation of *Rhinoceros unicornis* in Kaziranga National Park, Assam, India

Achieving Zero Poaching of rhinos would go a long way in securing the future of rhinos (DNPWC 2011, 2015). Google Glass was observed to be very effective in tracking threatened species like rhinos (DNPWC, 2017). To strengthen the recovery of rhino population, Wildlife Conservation Act, 1973 was implemented (MoFSC 2015, 2017). Poachers found guilty of illegal killing of rhinos shall be punished with a fine of 1000 and any contrivance/weapon used for the commission of an offence under this Act shall be liable to confiscation (The Assam Rhinoceros Preservation Act, 1954).

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Conflict of Interest

The author declares that there is no conflict of interest.

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