

# Assam leads in conserving the greater one-horned rhinoceros in the new millennium

Bibhab Kumar Talukdar

Aaranyak, 50 Samanwoy Path (survey), PO Beltola, Guwahati – 781 028, Assam, India;  
email: bibhab@aaranyak.org

## Abstract

Conservation of the greater one-horned rhinoceros in India and Nepal has been facing severe threats from poachers and wildlife trafficking. In the past four or five years poaching has increased in the rhino-protected areas in Nepal due to social unrest in the country, which provided good hunting for the well-organized poachers with links to international wildlife trafficking. Similar social unrest in Assam during 1983 saw the rhino exterminated from Laokhowa Wildlife Sanctuary in central Assam. During 1990–2000 social unrest around Manas National Park, Assam, also saw rhinos disappear from the park. In this new millennium, however, Assam has emerged as a strong initiator of conservation measures and protector of rhinos in the three existing rhino areas—Kaziranga, Orang and Pabitora. A rhino census carried out in these areas in March–April 2006 has showed increasing population in all the three. With new hope and aspirations, Assam thus leads in conserving the great Indian rhinoceros in this new millennium.

## Résumé

La conservation du grand rhinocéros unicolore en Inde et au Népal fait face à de sévères menaces à cause des braconniers et du trafic de faune sauvage. Au cours des 4–5 dernières années, le braconnage a augmenté dans les aires protégées népalaises où vivent des rhinos, à cause de l'insécurité civile qui régnait dans le pays et qui a fourni bon terrain de chasse aux braconniers bien organisés qui ont des liens avec le trafic international de faune sauvage. L'instabilité civile similaire qu'a connue l'Assam en 1983 a entraîné la disparition du rhino du Sanctuaire de la Faune de Laokhowa, au centre de l'Assam. Entre 1990 et 2000, l'instabilité sociale régnant aux environs du Parc National de Manas, en Assam, a aussi entraîné l'extermination des rhinos du parc. Dans ce nouveau millénaire cependant, l'Assam émerge comme un initiateur solide de la conservation et un protecteur des rhinos dans les trois aires où ils vivent — Kaziranga, Orang et Pabitora. Un recensement réalisé dans ces trois zones en mars–avril 2006 a montré une population en augmentation dans les trois aires protégées. L'Assam mène donc la conservation des grands rhinocéros indiens dans ce nouveau millénaire avec un espoir et des aspirations renouvelés.

## Introduction

There have been severe challenges to the conservation of rhinos throughout the globe over the years with wildlife poachers and smugglers eyeing rhino horns in a well-organized manner. The Indian rhinoceros, also called the greater one-horned rhinoceros, *Rhinoceros unicornis*, too has faced severe threats from poaching in its range countries in the past few decades, particularly in India and Nepal. Assam represents about 70% of the total wild population of the

Indian rhinoceros and poaching has remained a key threat to the wild population (Vigne and Martin 1998; Talukdar 2000, 2002, 2003; Choudhury 2005). In the past few years, rhino conservation in Nepal has received a severe jolt due to the social unrest in the country, which has resulted in increased poaching in the rhino areas of Nepal, and more importantly in the decline in information flow. Similar social unrest in Assam in 1983 witnessed an upsurge in rhino poaching in Laokhowa Wildlife Sanctuary, resulting in the total extermination of its rhino population. Similarly

the social unrest in Manas during the 1990s saw the rhino population decline to almost zero.

In spite of rhinos being exterminated from two of the protected areas in the last two decades, rhino poaching in Assam has diminished due to the aggressive strategy the anti-poaching units of Assam Forest Department adopted in the rhino areas of Assam during 2000–2005.

## Poaching trend in Assam

Rhino-poaching trend has declined from 2001 to 2004 then marginally increased in 2005. In the past 10 years (1996–2005), 156 rhinos were poached from the three rhino-protected areas.

## Current status of rhinos in Kaziranga National Park

In 2005 Kaziranga National Park (KNP) celebrated 100 years of successful rhino conservation. The first rhino census in Kaziranga was initiated in 1966 and since then there has been a steady increase in its rhino population. With the increase in rhino population and other wildlife species in Kaziranga, the tourist flow into the national park has also increased in recent decades (fig. 1).

Table 1 summarizes the increase in rhino population in Kaziranga since 1966.

Table 2 summarizes the rhino population of Kaziranga by block as enumerated in March 2006. During this count, it was observed that the western range of KNP harbours over 50% of KNP's total rhino population, followed by the central range and the eastern range. The western range is also popularly known as the Baguri range, while the central range as the Kaziranga range and the eastern range as the Agaratoli range. The Burapahar range was created a few years

Table 1. Rhino population in Kaziranga National Park according to censuses, 1966–2006

Year	Male	Female	Young	Unidentified sex	Total
1966	67	83	44	172	366
1972	203	188	148	119	658
1978	331	332	243	43	939
1984	283	296	201	166	946
1991	338	357	190	184 (+60) <sup>a</sup>	1069 (+60) <sup>a</sup>
1993	387	379	176	222	1164
1999	556	586	257	153	1552
2006	545	693	409	208	1855

Source: Directorate, Kaziranga National Park

<sup>a</sup> rhinos counted in the additional areas in 1991



Figure 1. Tourists enjoy a pachyderm in Kaziranga National Park.

ago with the addition of new areas to the western side of the Baguri range, which was providing shelter to about 109 rhinos at the time of the census. The Baguri block together with the western range harbours the highest number of rhinos out of the 10 census blocks with a population of 678.

Since 2000 rhino poaching in KNP has been greatly controlled with the proactive anti-poaching strategy park authorities have adopted. Intense patrolling by anti-poaching staff in and around Kaziranga has contributed to a significant decline in poaching (fig. 2). To enhance communication among the forest camps and range offices of the park, Aaranyak—a society for biodiversity conservation working in north-east India since 1989—and the David Shepherd Wildlife Foundation based in the United Kingdom have undertaken a 10-year project called ‘Wireless Communication Network Project 2003–2012’. In the past one and a half years the project has bought 125 new wireless handsets and supported 28 wireless base stations (fig. 3) to strengthen the wireless network and assist in the anti-poaching approaches designed by the park authorities. Further, about 40 solar panels have been provided to charge the wireless batteries in the interior camps of KNP where electricity is not available.

Between 2000 and 2005, 30 rhinos were poached in KNP (table 3). During the same period 353 rhinos died of various natural causes, including floods, infighting, old age and disease. Between 1990 and 1997, an average of 30 rhinos were poached in Kaziranga every year. Compared with these figures, the success in reducing rhino poaching in KNP in the new millennium is remarkable—30 rhinos poached in a span of six years. The local communities also have contributed significantly towards developing good liaison with park authorities and sharing intelligence about the movement of poachers around KNP. This combined effort of park authorities, local people and NGOs has made a huge difference in rhino conservation in the park in this new millennium.

### Current status of rhinos in Orang National Park

Orang National Park, an area of 78.8 km<sup>2</sup>, witnessed severe poaching during 1995–2000, with an average of 10 rhinos killed per year resulting in a fall in rhino numbers from 97 in 1993 to only 46 in 1999. But since then

Table 2. Population of rhinos in Kaziranga National Park by block, 2006

Range	Block	Block area (km)	Mother and calf			Adult		Subadult		Total				
			Mother	Calf		Male	Female	Male	Female					
				0–1 yr	1–3 yr						+ 3 yr	Unknown	Unknown	
WR	Baguri	79.6	176	49	93	35	160	65	44	17	18	20	1	678
WR/CR	Bhawani	46.2	38	4	10	24	43	30	10	4	8	5	0	176
CR	Charigharia	48	28	7	15	6	33	18	9	3	2	2	0	123
CR/ER	Panbari	51.2	27	5	10	12	48	14	19	3	3	8	0	149
CR/WR	Haldibari	51.6	75	23	28	24	71	44	27	26	16	7	0	341
CR	Kaziranga	47.8	18	1	8	9	28	10	13	3	0	1	0	91
ER	Tamulipathar	55.1	16	5	7	4	48	24	11	2	2	3	0	122
ER	Boralimora	31.1	7	7	0	0	19	11	3	0	0	1	0	48
BR	Burapahar	58.7+	16	2	8	6	25	16	12	6	4	12	2	109
CR/WR/ER	RF and additions		4	2	2	0	6	3	0	0	0	1	0	18
Total			405	105	181	120	481	235	148	64	53	60	3	1855

Source: Directorate, Kaziranga National Park  
 WR – western range, CR – central range, ER – eastern range, Br – Burapahar range, RF – reserved forest

the park has emerged strong with no rhino poaching in the past 14 months (April 2005–May 2006), after losing three rhinos in March 2005. Orang has learned from its past mistakes and has identified the gaps in protection, resulting in efficient rhino protection in the past four or five years (table 4). Between 2000 and 2005, Orang lost 24 rhinos; 11 died of natural causes while 13 were poached. Significantly, no rhinos were poached in 2002 or 2004. In 2005, 3 were poached in March by well-organized poachers. It often happens that after a few successful years of good protection, some forest staff become complacent, and it was at that point that well-organized rhino poachers hit back.

From a mere 46 rhinos counted in 1999, the rhino population had increased to 68 in the March 2006 census carried out by the Assam Forest Department. Table 5 summarizes rhino population figures for 2006 as enumerated by the Assam Forest Department.

### Current status of rhinos in Pabitora Wildlife Sanctuary

The population of the greater one-horned rhino has been increasing in the small protected area in Assam called the Pabitora Wildlife Sanctuary. From a population of 54 in 1987, rhinos now number 81 (30 female, 21 calves, 18 male and 12 subadults) in the census carried out in April 2006 by the Forest Department.

Firearms and electrocution are the two major methods used by rhino poachers at Pabitora Wildlife Sanctuary. There is a single instance only where two rhinos—mother and calf—were killed by chemical poisoning in 1987. Between 2000 and 2005, eight rhinos were poached in Pabitora WLS: five by gunshot and three by electrocution (table 6).

In Pabitora, poachers take advantage of the domestic electricity line passing along and within the sanctuary to kill rhinos; electrocution is a silent method. The first case of a rhino being electrocuted occurred on 29 August 1989. After the fringe areas



Figure 2. Patrolling in Kaziranga National Park.



Figure 3. Wireless equipment donated to Kaziranga National Park.

Table 3. Causes of rhino deaths in Kaziranga National Park, 2000–2005

Cause of death	2000	2001	2002	2003	2004	2005
Gun	2	2	3	3	4	7
Pit	2	6	1	0	0	0
Natural	44	35	62	63	100	49

Source: Directorate, Kaziranga National Park

Table 4. Rhino deaths in Orang National Park since 2000

Cause of death	2000	2001	2002	2003	2004	2005
Gun	8	1	0	0	0	2
Pit	0	0	0	1	0	1
Natural	5	2	1	1	2	0
Total loss	13	3	1	2	2	3

Source: Range Office, Orang National Park

Table 5. Rhino population in Orang National Park, 2006

Census block	Male	Female	Calf	Calf < 1 yr	Total
Baghmari	6	3	1	—	10
Gaimari	2	1	1	—	4
Jhaoni	1	1	—	—	2
Magurmari	1	1	1	—	3
Molamari	2	3	1	—	6
Pabhomari	1	2	1	—	4
Rahmanpur	2	3	1	—	6
Ramkong	1	1	—	—	2
Saila	5	4	—	2	11
Satsimlau	6	4	2	1	13
Solmari	—	1	—	1	2
Tincona	1	3	1	—	5
Total	28	27	9	4	68

Source: Range Office, Orang National Park

Table 6. Rhino deaths at Pabitora Wildlife Sanctuary, 2000–2006

Cause of death	2000	2001	2002	2003	2004	2005	2006
Gun	2	0	0	0	1	2	1
Electric	0	0	1	2	0	0	0
Natural	1	1	2	3	3	4	2

Source: Range Office, Pabitora Wildlife Sanctuary  
No deaths from pits.

around Pabitora Wildlife Sanctuary were developed, local people started using electric pumps for irrigation in their fields. For that purpose, the Assam State Electricity Board fixed numerous electric connections in the adjacent paddy fields and lands. This is one of the major headaches for anti-poaching staff of the sanctuary; they have to monitor every line every night, especially during the winter season, when the rhinos tend to go out of the sanctuary due to shortage of palatable fodder within the sanctuary.

## Conclusion

The threats posed to rhinos in Assam and also in its distribution range, within both India and Nepal, need to be assessed periodically at regional level for follow-up action. The anti-poaching staff of the rhino protected areas cannot afford to be complacent. Combating poachers has been an ongoing exercise that needs to be strengthened with improved intelligence gathering and rapid action to surprise the poachers and foil their attempts to poach rhinos. Continued monitoring is of utmost necessity. The future of the rhino in most of its habitat depends on how effectively we deal with poaching threats.

## Acknowledgements

Thanks are gratefully due to the David Shepherd Wildlife Foundation, UK, for continued assistance in carrying out wildlife crime-monitoring work in the eastern Himalayas, and to colleagues at Aaranyak for continued encouragement and assistance. The Assam Forest Department deserves special mention for their on-site field support during the study period, and for sharing data.

## References

- Choudhury A. 2005. Threats to Pabitora Wildlife Sanctuary, Assam. *Pachyderm* 38:82–88.
- Talukdar BK. 2000. The current state of rhino in Assam and threats in the 21st century. *Pachyderm* 29:39–47.
- Talukdar BK. 2002. Dedication leads to reduced rhino poaching in Assam in recent years. *Pachyderm* 33:58–63.
- Talukdar BK. 2003. Importance of anti-poaching measures towards successful conservation and protection of rhinos and elephants, north-eastern India. *Pachyderm* 34:59–65.
- Vigne L, Martin E. 1998. Dedicated field staff continue to combat rhino poaching in Assam. *Pachyderm* 26:25–39.