

# Assam's rhinos face new poaching threats

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*Assam, in north-east India, is the main stronghold for the great Indian rhinoceros *Rhinoceros unicornis*, with most of the 1500 or so individuals that live there concentrated in parks and sanctuaries. Despite valiant efforts to protect them, the forest guards are poorly equipped and no match for poachers armed with automatic weapons or those who make use of high-voltage power lines to electrocute the animals. The authors have discussed the many problems besetting rhino conservation in Assam with wildlife officials and they make several recommendations that would improve the situation.*

Spread beside the foothills of the eastern Himalayas and sharing boundaries with the other north-eastern states of India lies Assam. The Brahmaputra Valley traverses the entire length of the state, east to west, and its alluvial grasslands are ideal habitat for the greater one-horned or Indian rhinoceros *Rhinoceros unicornis*. Over 1500 rhinos thrive in this lush habitat within several parks and sanctuaries (Table 1).

The high concentration of rhinos in some of Assam's wildlife areas makes poaching relatively simple. Assam's wildlife officials are some of the most dedicated in India, but they have been unable to deter a new wave of poaching that hit Assam in 1989 when 58 rhinos (Table 2) were illegally killed, the highest number since 1983. Poachers can now get two-and-a-half times the price for a horn compared with the \$6250 per kg obtained in 1986, because demand in Hong Kong, Singapore and Taiwan for Indian rhino horn has pushed up the price there to over \$18,000 per kg wholesale. Well-armed poaching gangs are employing new hit-and-run tactics, killing one or two rhinos at a time. Forest guards, with their old fashioned bolt-action rifles, cannot compete with these commercial poachers financed by middlemen. Another new and horrifying form of poaching began in 1989, which alarmed wildlife employees in Kaziranga National Park and Pobitora Wildlife Sanctuary: electrocution via the power lines near by. A further disaster has

**Table 1.** Estimated wild populations of the greater one-horned rhinoceros in 1986 and 1989

	Area (sq km)	1986	1989
<b>INDIA</b>			
<b>Assam</b>			
Kaziranga	430	1080	1250
Manas	391	80	85
Orang	76	65	65
Pobitora	16	40	65
Laokhowa	70	5	5
Other pockets		25	42
Assam total		1295	1512
<b>West Bengal</b>			
Jaldapara and Gorumara		32	36
<b>Uttar Pradesh</b>			
Dudhwa Rhino Enclosure		7	9
All India total		1334	1557
<b>NEPAL</b>			
Chitwan and Bardia		375	400
<b>PAKISTAN</b>			
Lal Sohanra		2	2
Grand total		1711	1959

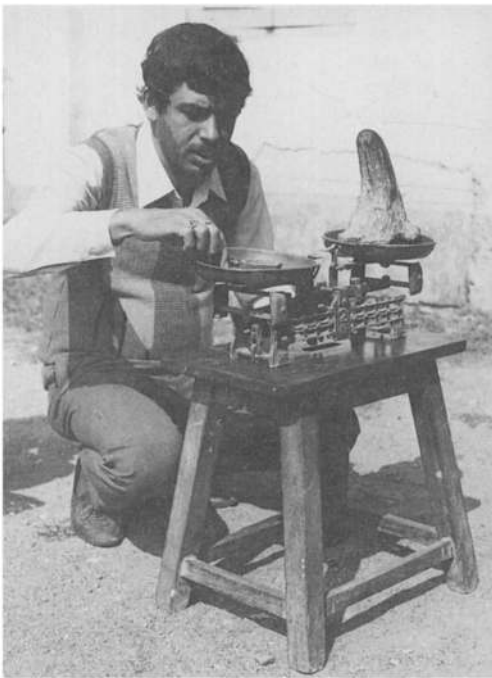
Source: Wildlife officials in India, and Mohd Khan bin Momin Khan, *Asian Rhinos: An Action Plan for their Conservation*, IUCN, Gland, 1989.

**Table 2.** Number of rhinos known to be poached in Assam

Area	1986	1987	1988	1989
Kaziranga NP	41	24	24	36
Nr Kaziranga NP	4	–	6	8
Laokhowa WS	–	–	–	1
Manas WS	2	7	1	6
Orang WS	3	1	4	5
Pobitora WS	–	2	2	2
Other places in Assam	–	7	3	–
<b>Grand total</b>	<b>50</b>	<b>41</b>	<b>40</b>	<b>58</b>

Source: P. C. Das, ex-Chief Conservator of Forests, Assam, via the Forest Department, Guwahati. For 1979–1985 numbers of rhinos poached in Assam see *Oryx*, 21, 214.

been tribal agitations in and around Manas Wildlife Sanctuary, which reached a peak in 1989 when all wildlife personnel had to be removed for their own safety, leaving Manas entirely open to poachers.



A Forest Range Officer at Kaziranga National Park checks the weight of an 0.875 kg male rhino horn, which is worth over \$10,000 wholesale in the markets of eastern Asia (*Esmond Bradley Martin*).

## Manas and the Bodoland dispute

In 1985, UNESCO declared Manas Tiger Reserve a World Heritage Site. It contains over 300 bird species and about 60 mammal species, a third being listed in Schedule 1 of India's Wildlife (Protection) Act 1972. The reserve encompasses 2837 sq km and its core area of 391 sq km, the Manas Wildlife Sanctuary, is home to more than 80 Indian rhinos as well as the highly endangered pygmy hog *Sus salvanius*, hispid hare *Caprolagus hispidus* and Bengal florican *Houbaropsis bengalensis*.

The plains tribal people of the area have been in Assam for many hundreds of years and coexisted with the more recently resident ethnic groups as long as land was plentiful. With the increased migration of Bengali Muslims from land-starved east Pakistan, many tribals sold their land and moved into the forests. Today, however, all forest lands outside protected areas have been taken over for paper and timber production and other businesses. Many Bodos, a major tribal group, are landless.

Since 1987 the All Bodo Students' Union (ABSU) has spearheaded a movement for a separate state of Bodoland north of the Brahmaputra River, of which Manas would be a part. In 1989 political discontent increased. Bodo activists burnt down or blew up scores of bridges and culverts and broke communication links to Manas as a way of attracting the attention of the Central Government. The sanctuary had to be officially closed in March 1989. Bodo terrorists invaded Manas and killed three wildlife employees plus several more outside the sanctuary. Ill-equipped and untrained to deal with the well-armed marauders, the guards were forced to abandon their posts in May 1989. The police were too busy controlling the violence in the villages (where over 100 people were killed in 1989) to pay attention to Manas. From then on several groups of Bodos took refuge in the sanctuary, using it as a temporary hide-out to escape from the police whenever necessary. They burnt down houses, looted arms, ammunition and radios. After years of protection the

forest was open to all comers; many trees were felled and animals killed indiscriminately. Six rhinos were poached. One was strangled in a steel-wire noose hung from a tree over a rhino trail at head-height; the animal took several days to die.

In January 1990 talks were held in Delhi to negotiate a solution to the Bodos' demands, and the agitation was temporarily suspended. Of the 120 guards withdrawn from Manas, 30 were then reinstated within two camps. The others remain on the boundary. There are 35 or so camps in Manas still vacant, but most have been demolished by Bodos or badly damaged by elephants. Although the Central Government gave Manas Rs3.4 million (\$205,000) for the financial year 1989/90 to buy new equipment, most of this has taken months to arrive as the Central Government and Assam Government disagreed on certain points. Wildlife employees are demoralized and fear future agitations. A permanent armed police force is needed to protect Manas and even then it will take a long time to re-establish law and order in the sanctuary.

### **Electrocutions in Kaziranga and Pobitora**

In late 1989, wildlife officials had to face a very different and new form of poaching. Pobitora Wildlife Sanctuary, an area of only 16 sq km is home to 65 rhinos; at four rhinos per sq km this is probably the highest rhino density in the world. Poaching pressure increases when the monsoon subsides, and the rhinos leave the high land in the sanctuary, straying into the neighbouring fields at night to eat young rice and mustard plants. They follow regular tracks through the tall grass, wandering several kilometres before returning to the sanctuary the next morning, leaving in their wake a trail of damaged crops.

High-tensile power lines run from west to east across Pobitora. On the north side there are two power lines of 33,000 volts each and one of 11,000 volts; on the south side is one line of 33,000 volts. In September 1989, at 01.30 h, rangers heard and saw sparks 0.5 km outside the north-east border of the sanctuary.

There they found a rhino, reaching it before the poachers. It had been electrocuted by a wire suspended 0.5 m above the ground and hooked up on to a 33,000-volt power line. All night the rangers guarded it and the next day the horn was taken into safe keeping. In October there was a second attempt on the south side of the sanctuary but the poachers were foiled; there was an electrical fault and the guards found the wire. In December 1989 poachers electrocuted another rhino 20 m inside the sanctuary using the 11,000-volt power line. The poachers escaped with the horn. The man behind this ingenious poaching has not yet been traced, but he is suspected to be a local Assamese. To try to prevent such occurrences, Pobitora's 35 forest guards are now on constant watch day and night between the pylons.

Kaziranga National Park has a 25-km stretch of high tensile power line of 11,000 volts running through the south-west portion of the park. There too, many rhinos wander out along specific paths at night to graze in the nearby fields. The first case of electrocution occurred outside the park in November 1989, and four more rhinos were electrocuted during the following 3 months using the same technique as in Pobitora. Only the horn was removed each time and sometimes an ear, as proof to a middleman that the poachers had a real horn. The forest guards cleared the undergrowth below the power line and 25 men patrol the area, especially at night. Wildlife officials have requested the electricity board authority to find a way of putting a fusing safety device on to the wire. Meanwhile it is up to the guards to look out for trailing wires for their own safety as well as that of the rhinos.

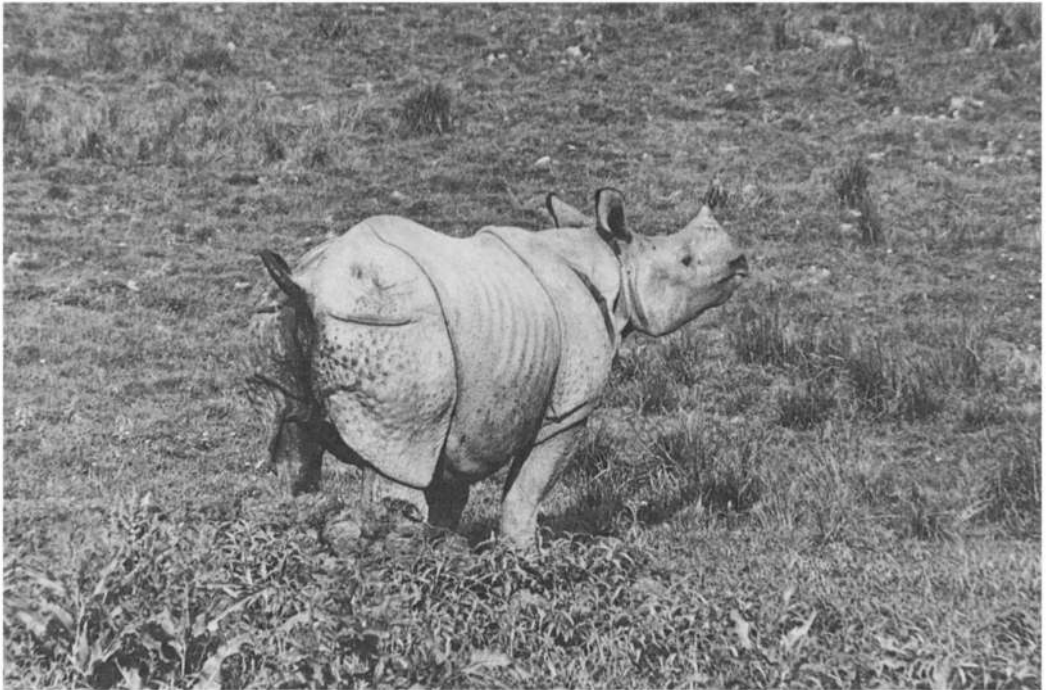
### **Poachers, traders and ULFA**

In the past, mainly local villagers were involved in poaching, but now sophisticated 'hit-and-run' poachers threaten Kaziranga. The main gang is thought to come from Nagaland or Mizoram on the Burmese border where insurgencies are common, and some believe that the horn is bartered for arms and

drugs from Burma. These new poachers enter the park at night, usually during the full moon, kill two or three rhinos with automatic rifles and are out of the park within hours. This hit-and-run tactic has been responsible for most of the 44 rhinos poached in and around Kaziranga in 1989.

Unfortunately, due to the lack of an intelligence system, information on the local trade is scanty. For example, it is not known where the horns from Manas went in 1989. Rhino horns from eastern Assam are probably still smuggled out of India via Calcutta. Information does exist, however, on several of the key middlemen. One big trader is an Assamese businessman from Dhing in Nagaon district east of Pobitora. He is thought to have been the main trader responsible for the 40 rhinos killed in Laokhowa Wildlife Sanctuary in 1983 when there was a breakdown in law and order and when the rhino population was virtually wiped out. He supplies poachers with carbine rifles and usually pays Rs100,000 (\$6250) per kg for the horn. He is a powerful and influential man and has not yet been captured.

Another is a rich Bengali man also from Nagaon. In 1987, a forest guard in Kaziranga noticed the four other guards in his camp had a large amount of money and reported them to the Range Officer. They were questioned and admitted they had killed a rhino and had sold the horn weighing 1.2 kg to this Bengali trader for Rs120,000 (\$9600). These men were subsequently dismissed. Local villagers often sell to the same trader. He was arrested, but witnesses have been unwilling to state that he purchased rhino horn and so he was set free. A third known trader, an Assamese and ex-councillor from Behali on the north bank of the Brahmaputra, was caught crossing the river on the Tezpur bridge in 1989 with a horn he had bought. He was arrested and later freed, but now at least there is a case against him. Another trader is a Naga who lives in Naozan on the border of Nagaland and Assam. He used to be a poacher and is now offering Nagas about Rs200,000 (\$11,900) per kg. It is believed that he probably exchanges the horn for arms. Although there is a legal case against him, he lives in an insecure area



A rhino in Kaziranga National Park defecates beside a midden (*Lucy Vigne*).



and wildlife officials cannot question or arrest him without being accompanied by the Naga police. So far, the man has not been apprehended. A fifth trader, a Marwari from Bokakhat in Assam, was financing poachers and providing them with arms in 1989. One poacher who was arrested then admitted his gang of five had received Rs10,000 (\$630) each from him for a horn weighing 0.5 kg. Because of his illicit involvement in the rhino horn trade, this trader was murdered in 1989 by a gang of illegal extremists belonging to the United Liberation Front of Assam (ULFA).

The ULFA started its activities in the mid-1980s. It is an underground group, consisting mostly of young educated Assamese. Its members want part of north-east India to be a separate country and have been trying to gain public support by wiping out anti-social elements in society. The consumption of alcohol was a particular problem, and ULFA therefore closed down many bars. Thugs made it unsafe for women to go out at night, so ULFA killed some of the main offenders. The group helps to finance its operations by terrorizing non-Assamese traders and demanding money from them. Concerning rhino poaching, ULFA believes ordinary villagers are being corrupted by the large sums of money being offered to them by traders. In late 1989 ULFA published in the local newspaper a list of 50 people around Kaziranga involved in poaching, warning them not to poach or they would be killed. Before the list was published, members of ULFA killed three poachers as proof of their seriousness. The poachers are from many ethnic groups in the area: Mia and Karbi tribals, Assamese, Bangladeshis, Bengalis, Nepalese and Nagas from Nagaland. The ULFA's fight to protect what it considers to be 'the pride of Assam', the rhino, is particularly intense around Kaziranga, but may spread to other parts of Assam. At last poachers and traders have a reason to fear dealing in rhino horn.

## Recommendations

Based on discussions with wildlife officials in Assam, it is evident that much could be done

to try to reduce poaching, and to improve the condition of protected wildlife areas and the relationship between wildlife and the local people.

1. More equipment, staff and domesticated elephants are needed in all the parks and sanctuaries. Most of the camps in Manas must be virtually rebuilt, and the staff restored, preferably in increased numbers. There used to be 3–4 people per camp, now 12–20 are needed because of the increased danger from the Bodos. In Pobitora the guards have only nine old fashioned .305 rifles, while poachers use silent sophisticated carbines. The guards must be given modern automatic rifles if they are to combat the poachers. Other equipment such as walkie-talkies, strong torches and binoculars (preferably with night vision) as well as a jeep are badly needed for Pobitora. The number of forest guards there needs to be doubled to 70 to allow half to patrol outside the sanctuary where so many rhinos now roam. Kaziranga also needs modern guns and radios along with motor boats to patrol during the floods, especially in the western swampy side of the park where most of the rhinos live. Additional domesticated elephants are required, ideally one for each of Kaziranga's camps, but they are expensive, about \$6000 each, and very difficult to obtain since the ban on wild elephant capture in Assam in the 1970s. Currently there are 35 elephants for patrols and tourist rides in Kaziranga, of which only 18 are useable, the others being with babies or injured. The number of guards here also needs to be doubled to about 400 to enable a set to patrol at night as well as during the day.

2. External sources of money and equipment are needed because Assam is a poor state. Its revenue from oil, tea and wood goes mostly to the Central Government treasury; money from tourism goes to the State treasury, none into the forestry department directly. To help Assam, Rs50 million (\$3.5 million) were provided by the Central Government in 1985 to be used over a 5-year period for rhino conservation in the state. Only half of this money has been used so far because, due to conflicts between the State and Central Governments,

the funds are often late in arriving and if the money is not used up within the financial year it must be returned. This problem needs to be rectified. There is currently an added difficulty: often there are delays in receiving equipment from the appropriate ministry. Perhaps non-governmental organizations could help in providing equipment for urgent requirements.

3. The morale of the field staff is often low and needs to be improved. Their take-home pay should exceed that of field staff in the forestry division because work in wildlife areas is much tougher and riskier. The guards can be on duty 24 hours a day and are in remote areas, cut off from their families and town facilities. They should be entitled to a fixed travel allowance to enable them to visit their families. There could also be a significant increase in the sum given to the family of a wildlife employee killed in duty. In Manas in 1989 when Bodos killed a mahout his last words were, 'save my elephant'; when a forest guard was shot in the chest in Manas he managed to give his gun to another guard ordering him to keep the gun and run. The families of these brave men and others should have proper compensation. With these benefits, forest guards and other employees in wildlife areas could accept their positions with pride rather than consider them as punishment postings.

4. The efficiency of the staff needs to be increased. Better training is required and transfers between forestry staff and experienced wildlife personnel should be avoided. In addition, the movement of staff from area to area needs to be minimized. A way to select the best staff would be to direct all first postings to wildlife areas: those unsuited could be moved to the forestry division. In turn, the proper choice of more motivated personnel would help to tighten up administration, which can be damaged by employing uninterested senior political appointees.

5. In order to track down poachers and middlemen, an intelligence-gathering network is urgently needed, and more money for payments to informers should be provided. Poachers give money to people to keep them

quiet, and the same technique should be used by wildlife officials to encourage locals to talk.

6. The legal system needs to be reformed to get poachers and traders jailed. Over 200 poachers have been arrested in Kaziranga during the last 10 years, yet none has been jailed for more than a few days as wealthy middlemen simply bail them out. Some poachers have been caught up to 12 times. To date, no poacher or middleman in Assam has been convicted. The police take the offence lightly and court cases get delayed for many years. By then, the poacher's original statement given to the wildlife officials may be invalid and, instead, what the poacher says in court with the help of a clever lawyer years later is what counts. Forest guards have probably by then been transferred and there is consequently little contemporary information on the case, which is then closed. To prevent this, a summary trial system could be introduced for wildlife offences. Currently it exists for minor cases, such as boundary disputes. With a summary trial system, going to court would be avoided; instead, a magistrate would come to the scene of the crime and if the evidence warranted it the poacher would be sentenced on the spot.

7. Patrol camps should be increased, strategically placed, and their locations reassessed as necessary. For example, in Kaziranga, camps are now needed predominantly along the southern boundary at about every 1.5 km; a good road should connect them, allowing the range officer to check that patrolling occurs around the clock. In the past, camps were built near waterholes where poachers would dig pits to catch rhinos. Now that hit-and-run poaching is the main threat, the park boundaries must be better protected instead. On Kaziranga's north side is the Brahmaputra river, which poachers cross by boat. Guards' camps should be built on the islands in the river. To minimize the risk of poachers impersonating fishermen, the local authority, which gives permits to fishermen, could require them to carry identity cards, and there could be certain restrictions, such as fishing only in daylight and on the north bank alone. The park's west side needs more staff and equip-

ment because this is where most of the rhinos live and where 80 per cent of the poaching occurs. Seasonal camps should also be constructed on the high land south of the park where rhinos migrate during floods.

9. A long-term problem facing all protected wildlife areas in Assam is the ever-increasing human population and demand for more land; thus the local attitude towards wildlife must be improved. Kaziranga and Pobitora have proposals for several badly needed extensions, which could double their size. Yet hostility already exists because the local people are excluded from utilizing these areas. For example, until 1987 Pobitora was a Reserve Forest in which people could legitimately collect grass, fish and graze their cattle. About 10,000 cattle are still dependent on Pobitora for occasional grazing, and 500 cattle come into the sanctuary illegally on average each day; the boundary is not respected at all. An average farmer earns very little for his crops; if a rhino is poached, it is seen as a blessing because it means one less animal to destroy his livelihood. With such feelings, a farmer is quite likely to protect a poacher. So it is essential that the rural people benefit economically from the wildlife areas near them. The obvious way is by providing a sufficient and fixed amount of compensation for crops damaged by wildlife. However, if a rhino were poached in that farmland, compensation could be eliminated for a year. In this way, local farmers would willingly co-operate and give information about poachers. To gain further popularity, the park manager could provide more community benefits such as schools and temples. In 1986 a high school was built at Kaziranga's Kohora headquarters from funds from the forest department, setting a precedent for this kind of measure. Each year, floods cause excessive damage in Assam, devastating crops and destroying houses and shelters; thousands of people are forced to take refuge in community halls. Until help is given to improve their standard of living, rural people, who should be the target group for wildlife publicity, will continue to consider rhinos as a threat.

## Conclusion

Poaching at the current level will not eliminate rhinos in Assam but in the future human settlement around parks and sanctuaries may do so as pressure for land becomes greater. Many forests are taken over illegally by villagers, and natural habitat is continuously lost or degraded. Animals need more areas in which to find food, and conflict increases. It is a priority to save the existing forest reserves and sanctuaries from encroachment. This can most effectively be done by improving both the economy of the local people and co-operation with wildlife officials. Only then should plans to connect some forest and wildlife areas by corridors be considered (M. Gandhi, Minister of Environment, pers. comm.). Much still needs to be done to secure the future of rhinos in Assam, but it is undoubtedly the best habitat in the world for these animals. Considering the State Forest Department's limitations and the recent new forms of poaching, Assam's wildlife officials continue to do a remarkable job in protecting rhinos, and numbers of rhinos in Assam are increasing. However, as demand for rhino horn by Assamese traders rises and poaching becomes a more efficient commercially organized operation, the job of protecting the rhinos will be that much harder. Assam wildlife employees now need all the help they can get from the Central Government, the State Government and non-governmental organizations.

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