

Rhino poaching in Nepal during an insurgency

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Abstract

Nepal's rhino conservation has been one of the most successful in the world. Rhino numbers increased from about 95 in the late 1960s to 612 in 2000, almost all in and around Royal Chitwan and Bardia National Parks. From mid-2000 to mid-2003, however, at least 91 rhinos were poached for their horns and nails, the largest number anywhere during this time. The main reason was Maoist insurgents, who are breaking down law and order in most of Nepal. The part of the Royal Nepalese Army based inside the two parks, fearing attacks from the Maoists, withdrew from 30 guard posts to reinforce their remaining 14. Adding to this problem, Chitwan's communication repeater station broke, intelligence funding for the Chitwan area was cut, and patrolling needed updating with the extra pressure on the parks. Thus, poachers could more easily enter the parks and kill rhinos. In 2003 the Parks Department started to implement new anti-poaching strategies that were more effective. Strategies included more funds for intelligence; improved cooperation regarding rhino protection among the parks, Army and NGO staff; a new patrol system for Chitwan; improved telecommunications; more help from neighbouring communities to identify potential poachers; and of greatest importance, better leadership. Rhino poaching was nearly stopped with only one rhino known to be killed between July and December 2003.

Résumé

La conservation des rhinos au Népal est une des plus réussies au monde. Leur nombre a augmenté en passant d'environ 95 à la fin des années '60 jusqu'à 612 en 2000, presque tous dans et autour des Parcs Nationaux et Royaux de Chitwan et de Bardia. Entre la moitié de l'année 2000 et celle de 2003, cependant, au moins 91 rhinos ont été braconnés pour leur corne et leurs ongles, le plus grand nombre atteint où que ce soit dans le monde. La cause principale, ce sont les insurgés maoïstes qui ne respectent ni loi ni ordre dans une grande partie du Népal. La partie de l'Armée Royale Népalaise qui est basée à l'intérieur des deux parcs, craignant des attaques de la part des maoïstes, s'est retirée de 30 postes de gardes pour renforcer les 14 autres. Pour aggraver le problème, ajoutons que le relais radio de Chitwan est tombé en panne, que les fonds alloués aux renseignements dans la région de Chitwan ont été coupés et que les patrouilles auraient eu besoin de renfort en raison de l'augmentation des pressions sur le parc. Les braconniers ont donc pu plus facilement pénétrer dans le parc et tuer des rhinos. En 2003, le Département des Parcs a commencé à mettre en action de nouvelles stratégies anti-braconnage qui furent plus efficaces. Celles-ci comprenaient plus de fonds pour le renseignement, une meilleure coopération entre les parcs, l'Armée et le personnel des ONG pour la protection des rhinos, un nouveau système de patrouilles pour Chitwan, de meilleures télécommunications, plus d'aide de la part des communautés voisines pour identifier les braconniers potentiels, et, très important, une meilleure direction. Le braconnage des rhinos fut pratiquement stoppé et il n'y a plus eu qu'un rhino tué entre juillet et décembre 2003.

Introduction

Insurgencies in Africa and to a lesser extent in Asia cause rising levels of rhino poaching. Occasionally, such rebel activities have enabled poachers to move into wildlife protected areas and eliminate rhinos due to breakdown in law and order. Recent examples in Af-

rica have been in Chad, Democratic Republic of Congo (DRC), Mozambique, Rwanda, Sudan, Uganda and Zimbabwe. Burma, India, Indonesia and Nepal have also witnessed insurgency groups, including Marxists, Maoists and other rebels, fighting against their central governments, to the demise of the rhino. Internal conflicts occurring today that are causing rhinos to be

poached in Africa are in DRC's Garamba National Park, southern Sudan and Zimbabwe's wildlife conservancies. In Asia, the target areas are in Assam in north-east India, Aceh Province in Indonesia and around Royal Chitwan and Bardia National Parks in southern Nepal. In some countries, the insurgents themselves are poaching rhinos such as the Sudanese rebels in Garamba and the so-called war veterans in Zimbabwe. Elsewhere, such as in Nepal, neighbouring villagers rather than rebels are taking advantage of the weakened control and are poaching rhinos.

This paper examines the difficulties that Nepal has faced since 2000 due to rebel activities and how the Nepalese authorities have fought back to protect their rhinos. From mid-2000 to mid-2003, Nepal's rhino poaching had been the worst since the national parks were founded and the worst in the world during that time. However, from July 2003, the Parks Department has made a remarkable recovery despite having to continue to battle with insurgency problems. Perhaps other wildlife departments in Africa and Asia should learn from Nepal on how to reduce rhino poaching during a major insurgency.

Methods

I carried out fieldwork in Nepal for three weeks in December 2003 with visits to Kathmandu, Royal Chitwan

National Park and Royal Bardia National Park (fig 1). These national parks and their surrounding areas are home to all Nepal's greater one-horned rhinos except for six in the Royal Suklaphanta Wildlife Reserve. I interviewed personnel from conservation organizations, the Department of National Parks and Wildlife Conservation (DNPWC), the Royal Forest Department, the Royal Nepalese Army, academics, and other knowledgeable individuals. I read reports, both published and unpublished, on rhino conservation, especially those dealing with anti-poaching strategies.

Results and discussion

Political developments in Nepal

With the overthrow of the *panchayat* regime, parliamentary elections were held in 1991, and Maoists were able to win some seats. In 1995 the Police launched a broad sweep against these left-wing activists in the western part of the country. Following this, the leaders of the Maoists publicly announced a doctrine of violence. In 1996 the Maoists launched their first incursions. Since then they have attacked the Army, Police, Forest Department buildings, bridges, clinics, dams and electricity generating stations. The Maoists have also tortured and executed government teachers and local political leaders. On



Figure 1. Map of Nepal showing location of parks and reserves where rhinos are found.



Grass cutters are allowed into Chitwan Park for three days a year to obtain thatch for their houses. They cross the Rhapti River to enter the park, as do the poachers.

26 November 2001 a state of emergency was declared in Nepal. From 1996 to December 2003 at least 8,500 people have been killed in the conflict on both sides (International Crisis Group 2003; Sahni 2003).

The Maoists have been demanding an interim government in which they would have major influence. They wish—at the least—to reduce the power of the royal family, eliminate rich landlords, redistribute land to the poor, lower interest rates of moneylenders, reduce government corruption and remove the caste name ‘untouchable’. Maoists are not against the tourists who come to Nepal; they support a clean environment but have not been specific about wildlife.

The effect of the Maoist uprising on the economy and society of Nepal has been devastating. During the 1980s Nepal’s average gross domestic product increased by 4 to 5% a year (Rana 1999). However, from 1999/2000 to 2002/03 the per capita income actually fell to USD 249 a year, one of the lowest in Asia (His Majesty’s Government 2003a). Fighting and bombings in Nepal have scared away new foreign investment and many townspeople and productive

farmers are leaving for India, the Gulf States and Malaysia. In 1999 there were estimated to be 90,000 Nepalese in the Gulf and 34,000 in eastern Asia (Rana 1999). By 2002 numbers were up to 170,000 in the Gulf and at least 64,000 in Malaysia alone (Swiss Development Corporation 2003). In Nepal, farmland has become fallow, overall agricultural production has fallen, and working hours have declined due to curfews and fear of attacks (Chazee 2003). Imposed Maoist taxes in the countryside have resulted in 120,000 to 200,000 internally displaced people who have found refuge mostly in towns since 2002.¹ The number of foreign tourists to Nepal fell from 491,504 in 1999 to 361,237 in 2001 (His Majesty’s Government 2003a), which has diminished the revenue of the national parks and buffer zones. One night in November 2003, bandits, probably Maoists, attacked a tourist lodge in Royal Chitwan National Park, the Gaida Wildlife Camp, burned down part of it and stole money from the manager, which alarmed the tour-

¹ Laurent Chazee, agricultural and rural development specialist, Asian Development Bank, pers. comm. 2004.



Police checks on the roads entering Kathmandu catch illegal wildlife products and hand them over to the Forest Department. These confiscated rhino horns are wooden fakes.

ists. There have also been numerous incidents of extortion from hotels, lodges and tourism businesses since 1996.

Recent rhino poaching in the Chitwan Valley

Royal Chitwan National Park was gazetted a park in 1973 and from then until 1998, about 66 rhinos were known to have been poached in the Chitwan Valley, which covers the park and surrounding areas. Thus an average of 2.6 a year were poached (Martin and Vigne 1995; Martin 1998). In 1998 and 1999, 20 rhinos were illegally killed, on average 10 a year, and in 2000, 15 were poached (Martin 2001). Rhino poaching continued to surge up to mid-2003. Several sets of figures are given for those three years for Chitwan Valley. The Nepalese calendar-year figures given for April 2001/02 were 34 and 30 for the following year.²

² According to Kamal Jung Kunwar, assistant warden in charge of anti-poaching, Chitwan Park, letter to the manager, Tiger Tops Lodge, 17 September 2003.

For the western calendar, the Nepal 'Annual Report of CITES Unit' gives 13 poached rhinos for 2000, 18 for 2001 and 37 for 2002 (Dhakal 2003). Tika Ram Adhikari, the former team leader of the anti-poaching units in the Chitwan Valley, also gives the calendar-year figures of 18 for 2001 and 37 for 2002 (Adhikari 2002). However, Chapagain and Dhakal (2003) state that rhinos poached numbered 12 in 2000, 17 in 2001 and 35 in 2002. I have chosen for this article the figures published in the DNPWC annual reports, which are for the Nepalese financial year. This is because they give the most details on where the rhinos were poached, by what method, and what body parts were removed. These figures show that 12 rhinos were poached during the financial year July 2000/01, 38 rhinos during July 2001/02, and 28 during July 2002/03 (see table 1). All sets of figures show that 2002 was the worst year for rhino poaching in Nepal. This spate of poaching would have considerably reduced the growth potential of 544 rhinos, the 2000 census for Chitwan Valley, which was the latest.

DNPWC's poaching figures show that 65% of the poaching of rhinos in Chitwan Valley occurred in the

Table 1. Minimum number of rhinos poached in Nepal, July 2000 to December 2003

Year	Chitwan Valley	In and around Bardia Park	Total
2000/01	12	2	14
2001/02	38	3	41
2002/03	28	8	36
2003 (Jul–Dec)	1	0	1
Total	79	13	92

Sources: Subba 2001–2003; Kunwar, pers. comm. 2003

park: 5 were taken in 2000/01, 24 in 2001/02, and 22 in 2002/03. All except for one were killed using modern .303 rifles or home-made guns; that one was found dead from poison just inside the park in 2001/02. In the rest of the valley, most were shot, but 6 were electrocuted, either from electric fences or from electric wires hanging down from power cables. The data are precise from July 2001 to July 2003 for the 66 rhinos killed in the Chitwan Valley. There were 46 poached in the park, 16 outside and 4 from unknown areas. Horns were removed from 48 of the animals, 36 inside the park, 9 from outside and 3 from unknown areas. Data are available about the nails on 53 of the rhinos; 9 had had their nails removed, at least 6 inside the park (Subba 2002, 2003).

The poachers are mostly local people who know the valley well, especially from the Brahman, Chepang, Chhetri, Magar, Tamang and Tharu ethnic groups. Outsiders would be spotted by the villagers surrounding the park and thus usually do not come. The Maoists do not poach as they have neither the experience nor the interest. A poaching gang consists of two to five men with one or several guns. Those entering the park cross the northern boundary where many rhinos live. They swim across the Rapti River or use a tyre tube. Sometimes to be less conspicuous a gang member will go ahead with the guns to hide them in the park, before returning for the others. They bring dry foods (biscuits, rice and tea) as they often need to spend several days in the park, sleeping in trees or in caves, before finding their rhino.

For a gang of five, the shooter receives Nepalese rupees (NPR) 50,000 to 100,000 or USD 676 to 1,351 while the others may each receive NPR 25,000 to 40,000 or USD 338 to 513 for one horn averaging 722 grams.³ Thus the gang can earn from USD 2,027

to 3,514 for one horn, or USD 2,807 to 4,867 per kilogram. In 2000, according to arrested poachers, the maximum payment for a gang was then the equivalent of USD 5,894 per kilogram.⁴ This slight fall is partly due to the devaluation of the Nepalese rupee.

Often a poaching gang will obtain assistance, financial or otherwise, from a middleman who lives in a nearby village or town such as Narayanghat. He

pays the gang for the whole horn, not per kilogram. He then takes the horn to Kathmandu or sells it to another middleman who takes it to Kathmandu. The trader who buys it there for export pays the equivalent of USD 9,460 to 10,135 a kilogram.⁵ Very occasionally fake rhino horns, most often made of wood, are brought to Kathmandu for sale (see table 2).

Table 2. Seizures of wildlife products by the Nepalese government in Kathmandu, 2000/01 to 2002/03

Year and item	Pieces or weight
<i>2000/01</i>	
Elephant ivory	1.3 kg
Leopard skin	1
Musk deer pod	1
Otter skins	36
Python skin	1
Rhino horn, fake	1
<i>2001/02</i>	
Bear gall	1
Bear galls, fake	6
Beetles	271
Leopard bone	2 kg
Leopard nails	342
Musk deer pod	1
<i>2002/03</i>	
Beetles	240
Leopard skins	109
Otter skins	14
Rhino horns, fake	3

Source: Krishna Raj Basukala, district forest officer, Kathmandu, pers. comm. 2003

³ Kunwar, pers. comm. 2003.

⁴ Adhikari, pers. comm. 2001.

⁵ Kunwar, pers. comm. 2003.

Reasons for increased rhino poaching in the Chitwan Valley

- The main reason for the upsurge of rhino poaching from 2001/02 to 2002/03 was due to the Royal Nepalese Army changing the positions of its soldiers within Chitwan Park to prevent Maoist attacks on them. Until December 2001, one battalion of about 800 men was widely dispersed in the park at 32 guard posts. Then following the declared state of emergency and with increasing threats of Maoist attack, the Army decided to withdraw from 24 of the posts to concentrate their soldiers at the remaining 8 guard posts. The Army believed that the Maoists could too easily overrun a remote guard post occupied by only a handful of soldiers. From a military point of view this was a rational decision, but for rhino conservation it was a disaster. Although some media claimed incorrectly that the number of soldiers in the park was reduced, soldiers did abandon large areas of it, a

fact quickly noticed by the poachers.⁶ In October 2003 the Maoists burned down one guard post in the east where some park staff were temporarily based, and they stole walkie talkies and a motor-bike.⁷

- The Army stopped patrolling adequately as they feared they would be attacked by Maoists if they moved too far from their posts.
- The breakdown in law and order made it easier for the poachers and traders to operate in and around Chitwan Park.
- There was a reduction in payments for the park's former anti-poaching unit (APU) staff; for example, some incentive allowances stopped. Staff morale thus fell and motivation declined for the eight APUs stationed in the park, consisting of a

⁶ Major Gunga Khadka, Deputy Battalion Commander, Royal Nepalese Army, Chitwan Park, pers. comm. 2003.

⁷ Kamal Gairhe, veterinary officer, Chitwan Park, pers. comm. 2003.

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As well as the Park Department's domesticated elephants, several lodges have elephants for their tourists, as the best way to find rhinos and tigers is on elephant back.



Tigers in Chitwan Park killed at least 6 rhino calves from mid-2000 to mid-2003, but this one was saved by the park's staff.

ranger, senior game scout, about two game scouts and a local informer.⁸

- Some of the more experienced anti-poaching staff were transferred, and APU activities slackened with limited patrolling (His Majesty's Government 2003b).
- Coordination among those involved in anti-poaching declined (His Majesty's Government 2003b).⁹ Those involved are the parks department, the Army, local informers, buffer zone committees, the Forest Department, the Police, donor agencies and NGOs. The main reason for weakened coordination was that park wardens were frequently transferred, making continuity difficult.
- The informant network became poorly managed and coordinated. Therefore, the chief park war-

den was catching poachers only after a rhino had been killed, unlike before; poachers' confidence grew.¹⁰

- For many years the International Trust for Nature Conservation (ITNC), a British NGO, provided park staff with more money for them to give to their informants as wages and as reward money than any other organization in the Chitwan Valley. From April 2001 to April 2002, ITNC paid NPR 24,000 a month for informers (about USD 3,600 for that year). The ITNC staff based in Nepal, however, became disillusioned with the anti-poaching efforts in the park and wanted a new plan. They therefore cut off all funding of monthly payments for informers (but continued paying reward money) from July 2002 to April 2003.¹¹

⁸ Kunwar, pers. comm. 2003.

⁹ Narayan Poudel, deputy director, DNPWC, pers. comm. 2003; Gairhe, pers. comm. 2003; Kunwar, pers. comm. 2003.

¹⁰ Poudel, pers. comm. 2003.

¹¹ Dinesh Thapa, manager, ITNC funds, Nepal, and manager, Tiger Tops Lodge, Chitwan Park, pers. comm. 2003.

- In mid-2002 heavy monsoon rains broke the communication repeater station and the solar power station in the park (WWF Nepal Program 2003). Park staff had very few mobiles and walkie talkies so communication among staff almost collapsed making coordination with anti-poaching patrolers difficult.

Policy changes implemented in 2003 to stop poaching in the Chitwan Valley

Senior staff of the DNPWC realized by late 2002 that their anti-poaching strategy was not working well. The national press published stories on all the rhino problems. The parks department therefore wrote background papers and held workshops to produce a new plan to protect the rhinos in Chitwan (WWF Nepal Program 2003). This new strategy started in early 2003. By mid-2003, with the arrival of a new chief park warden with excellent leadership ability, the anti-poaching plan started to work. He motivated his men and improved cooperation among groups involved in anti-poaching. From July onward, all strategies were implemented together and only one rhino was known to have been poached in the valley in the following six months (although carcasses may be found later). The factors involved were as follows.

- The main policy change that also brought most improvement concerned a change in the anti-poaching patrol strategy. Before, the APUs were based in specific parts of the park and just outside, and they patrolled within their limited area. The new strategy for Chitwan Park, adopted from Bardia Park, is called a 'sweeping operation'. It puts together a large group of men from the park and Army to patrol intensively when a problem is perceived. The patrollers use some of the park's domesticated elephants (which total 55), motor vehicles, motor boats and bicycles. The men may stay out for a week, camping in 'hot spots' where rhino poaching is common.¹²
- Incentives for patrollers such as better food were improved, greatly boosting morale.
- Coordination between the Army and park staff was improved, with more meetings between senior personnel and better communication. Meetings were started among senior park staff in Kathmandu to assess and update the effectiveness of this new anti-poaching strategy.
- A flying squad of 9 park staff and 12 Army personnel was established to be able to reach the scene of an incident quickly.
- Army and park staff were increasingly allowed to go outside the park boundary to arrest poachers and traders, no longer having to rely solely on the Forest Department and Police for this, as was the case before 2002.
- Park staff took over and reinforced some of the abandoned Army guard posts and patrolled with domesticated elephants.
- ITNC recommenced its funding in early April 2003; thus informers were paid for their March work and this has continued. The funds were increased from NPR 20,000 to 25,000 (about USD 255 to 338) per month and are now given to the chief park warden to distribute. Of the NPR 25,000, most of it (NPR 20,000) goes to 10 regular informers while NPR 2000 is available as reward money and NPR 2500 goes towards the sweeping operations.¹³ These funds, combined since July 2003 with monthly sums of NPR 16,000 from the WWF Nepal Program and NPR 20,000 from the King Mahendra Trust for Nature Conservation (KMTNC), total NPR 61,000 (USD 824) a month. This intelligence money is vital for the success of the anti-poaching operations.¹⁴
- The Parks Department received from the WWF Nepal Program a motor boat and a new communications network to replace the faulty one.
- A new, more skilled and motivated Army commander took control of the battalion in May 2003. The Army then became more active and effective in patrolling.
- The Parks Department further educated the people surrounding the park on the importance of rhino conservation and its benefit to them. Buffer zone inhabitants receive half the park revenue annually. This is a huge incentive for these 300,000 or so people living in the buffer zone to conserve the rhinos and other animals. At the end of 2003, the buffer zone council had NPR 76 million (USD 1 million) in the bank accumulated from around three years of revenue from the park.¹⁵

¹² Kunwar, pers. comm. 2003.

¹³ Thapa, pers. comm. 2003.

¹⁴ Kunwar, pers. comm. 2003.

¹⁵ Meghanath Kafila, assistant warden in charge of buffer zone activities, Chitwan Park, pers. comm. 2003.

- Around mid-2003, park staff helped officers in the buffer zone (who are elected from the villages to manage the zone) to initiate a volunteer campaign for the youth of Nawalparasi District to reduce rhino poaching. There are eight buffer zone user committees in this district and they all helped set up the youth groups and gave them financial assistance. Young people started to seek out potential poachers in the district, particularly among those working on the Nayarani River such as transport boatmen and fishermen. This valuable information was given to park staff, which helped to eliminate rhino poaching in the district.¹⁶

Recent anti-poaching operations in the Chitwan Valley

From early July to late November 2003,

52 poachers were arrested in the Chitwan Valley: 17 for rhinos, 2 for tigers, 5 for ‘less important’ animals, 19 for timber and 9 for other small offences (see table 3).¹⁷ In August, following a tip-off from an informer, a poacher was arrested who claimed, probably correctly, to have killed 17 rhinos over the past seven years and earned NPR 875,000 for the horns. He came from Chitwan District and claimed to have killed all the rhinos with his home-made muzzle loader

Table 3. Number of rhino poachers and traders arrested in and around Chitwan and Bardia Parks, July 2000 to November 2003

Year	In and around Chitwan Park	In and around Bardia Park
2000/01	39	5
2001/02	28	9
2002/03	26	9
2003 (Jul–Nov)	17	?
Total	120	23+

Sources: Subba 2001–2003; Poudel, pers. comm. 2003

¹⁶Tirtha Maskey, director general, DNPWC; Shyam Bajimaya, ecologist, DNPWC; Poudel; Ram Prit Yadav, community development consultant, KMTNC; Kafila, pers. comm. 2003.

¹⁷Poudel, pers. comm. 2003.

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This rhino and her calf inhabit the Karnali River floodplain, essentially the only place accessible for tourist rhino-viewing in Bardia Park.



In Bardia Park, the Army was looking after this orphaned rhino in late 2003.

(DNPWC 2003). He had been a poor man looking after domestic animals for another person. He was then attracted into poaching rhinos by a middleman who offered to buy any horns he could get. He shot 15 of the rhinos on the western bank of the Narayani River around Dibyapuri just to the north-west of the park. The poacher's main source of information on where the rhinos were in the area came from a community guard of the Forest Department. On one occasion he wounded a rhino with a bullet and then went up to it with an axe and cut off a leg to immobilize it!

From 2000/01 to 2001/02 the Army killed one rhino poacher, but in 2002/03 they killed six as anti-poaching was stepped up (Subba 2001, 2002, 2003). Thereafter, potential poachers feared to enter the park.¹⁸

Recent rhino poaching in and around Bardia National Park

To establish a second rhino population in the country, in 1986 the parks department translocated their

first group of 13 rhinos from Chitwan Park to Bardia Park in western Nepal. Since then there have been eight more translocations from Chitwan to Bardia with a total of 87 rhinos brought to the park by 2003. The most recent census in April 2000 showed 67 rhinos in the park; from then until November 2003 Bardia received 35 more rhinos (Subba 2003).

From 1986 to 1999 at least 10 rhinos were poached in and around Bardia Park, averaging less than one a year. More rhinos, 13, were poached from mid-2000 to mid-2003 in and around Bardia than in the previous 13 years combined; 12 were poached inside the park and each (but 2 that were unrecorded) had its horn removed. Records were kept on the nails of 9 animals; 4 had them taken, 5 did not. One more rhino was poached outside, but its horn and nails remained intact. Most poaching occurred in the Babai Valley in the south-east portion of the park where, along with the Karnali River floodplain, many rhinos are concentrated. It is a remote area with no proper roads and difficult terrain for the anti-poaching staff to patrol. Poaching gangs killed most of the rhinos with guns, usually home-made rifles.

¹⁸ Poudel, pers. comm. 2003.

Bardia has far fewer rhinos than Chitwan and they have only recently been translocated to the region, so contacts between poachers and middlemen are weaker. Almost all the horns are transported from Bardia to Kathmandu for export.

Reasons for increased rhino poaching in Bardia

Rhino poaching escalated in Bardia from 2000 up to mid-2003.

- Two Army companies were stationed in the park (with 250 men each), but due to the threat of Maoist attacks, they halved their 12 guard posts to double up the remaining 6, leaving large areas with no protection.
- In early 2002 Maoists put a bomb on a road 15 km from the park near the Indian border to ambush the Army; seven soldiers were killed including a major commanding one of the companies in Bardia.¹⁹ They also harassed nearby villagers in 2002. With insecurities in the countryside, it was easier for poachers to enter the park.
- Maoists extorted money from managers of tourist camps and lodges and scared away the tourists from Bardia. From a peak of 12,388 in 2001, numbers fell to 2,895 in 2002/03 (Subba 2002 and 2003). Of the 19 tourist lodges and camps around Bardia, 4 were closed in December 2003 and compared with 300 staff in 2000, only 97 remained for the 290 beds available. The main road from Kathmandu to Bardia is now closed every night and there are about 12 Police and Army check-points, each one of which takes a bus about half an hour to get through. From late 2002 to late 2003 the government cut off all phones in the area to hinder the Maoists, but tourist facilities suffered too. Employees of these tourist facilities (12 of which are owned by local people) are in fear of losing their jobs. Bardia's buffer zone of 328 km² is no longer receiving the large tourist economic benefits as in the past (half the park revenue), due to Maoist activities, so the 100,000 local villagers are also now struggling. Thus, they have less desire to help protect rhinos, especially considering that they damage crops and livestock—and injure people. Between 1998/99 and mid-2003,

21 people have been killed by rhinos in Nepal, including 2 by Bardia rhinos (Subba 1999–2003).

Policy improvements in and around Bardia in 2003

Nevertheless, from July to December 2003 no rhinos are known to have been poached. There are several reasons for this huge improvement, as compared with eight rhino deaths in the previous 12 months.

- Coordination between the Army and the Parks Department improved, resulting in better sweeping operations, faster mobile patrols and regular patrols from the Army guard posts.
- The park staff had taken over four of the six empty guard posts by late 2003.²⁰
- More anti-poaching patrols took place in the Babai Valley, including sweeping operations that lasted for many days, using 10 elephants, 20 elephant men, 20 game scouts, 2 or 3 senior game scouts, 2 rangers and some Army personnel.
- Starting in 2002, but improving by 2003, the park and Army staff were legally allowed to arrest poachers and traders outside the park as well as in.
- Overall relations between the Parks Department, Army, and buffer zone villagers improved with better cooperation, leading to the villagers providing more information on poacher suspects.²¹
- NGOs improved their education programmes in the buffer zone to make the residents more sympathetic to helping rhinos.
- NGOs put more resources into the buffer zone, financing the local people to build watch towers, trenches and construct electric fences to prevent wildlife from destroying crops and injuring people.
- The chief park warden started to hold monthly meetings to keep Bardia's anti-poaching strategies up to date and effective.²²

Conclusion

It is vital that the most competent personnel be posted to the national parks, from the chief park warden

¹⁹Major Sudeep K.C., company commander, Thakurdwara, Bardia Park, pers. comm. 2003.

²⁰Puran Shrestha, chief park warden, Bardia Park, pers. comm. 2003.

²¹Shant Raj Jnawali, project director, KMTNC, Bardia Conservation Programme; Babur Ram Yadav, assistant warden, Bardia Park, pers. comm. 2003.

²²Shrestha, pers. comm. 2003.

downwards, especially during political insurgencies when law and order in a region break down, be it in Nepal or elsewhere. To select the best team is a tough job as it involves lobbying and creating the political and administrative will to get the best people in the responsible positions for as long as they are effective. NGOs should help ensure that the right government people are in service in the protected areas (Thapar 2003). No amount of vehicles and community development projects can significantly help without good park leadership. Thus, the key to the success of rhino conservation is getting the most capable park staff, keeping them in position for as long as is feasible, and supporting an effective anti-poaching strategy. Such a strategy consists of an adequate budget, sufficient personnel for patrolling, an efficient intelligence-gathering network, and on-going appraisal and implementation of the strategy.

Acknowledgements

I wish to thank several conservation organizations for supporting my fieldwork in Nepal: Care for the Wild International, Columbus Zoological Park Association, and the John Aspinall Foundation. Thanks are also due particularly to the following people who helped me with information, assisted in the field, and/or provided constructive comments on this manuscript: S. Bajimaya, L. Chazee, A. Duncan, K. Gairhe, K. Kunwar, T. Maskey, N. Poudel, P. Shrestha, D. Thapa, G. Thapa, L. Vigne, B. Yadav and R. Yadav.

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