

Insurgency and poverty: recipe for rhino poaching in Nepal

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Abstract

With at least 108 rhinos known to have been poached from 2001 to 2005, Nepal probably had the worst rhino poaching of any country in the world. The Maoist rebel activity drew Army personnel away from the guard posts in Royal Chitwan and Royal Bardia National Parks, leaving the way open for poachers to enter more freely. Neither was their passage through the buffer zones much hindered by the people living there. Parks and non-government organizations have put large sums of money into the buffer zones to give financial support to local communities to improve their living conditions and to win their support for conservation. However, some local people who do not benefit enough from the buffer zone programme have even joined rhino-poaching gangs to act as guides. This report offers suggestions on how rhino poaching can be reduced in Nepal.

Résumé

Avec au moins 108 rhinos braconnés entre 2001 et 2005, le Népal connaît probablement le pire braconnage de rhinos du monde. L'activité des rebelles maoïstes a causé le retrait du personnel de l'Armée des postes de gardes des Parcs Nationaux de *Royal Chitwan* et de *Royal Bardia*, laissant le champ libre aux braconniers. Leur passage par les zones tampons ne fut pas non plus fort entravé par les personnes qui y vivent. Les Parcs et les organisations non gouvernementales ont investi de fortes sommes d'argent dans les zones tampons pour donner un support financier aux communautés locales afin qu'elles améliorent leurs conditions de vie et pour gagner leur soutien à la conservation. Pourtant, certaines personnes qui ne bénéficient pas suffisamment du programme de la zone tampon ont même rejoint les gangs de braconniers pour leur servir de guides. Ce rapport fournit quelques suggestions pour des moyens de réduire le braconnage des rhinos au Népal.

Introduction

In 2000 there were 612 rhinos in Nepal of which 544 were in and around Royal Chitwan National Park, 67 in and around Royal Bardia National Park and one in Royal Suklaphanta Wildlife Reserve. The population had increased at an annual rate of 3.88% per year from 1994 to 2000 (DNPWC 2000). From 2001 to 2005, however, more rhinos were illegally killed in Nepal than anywhere else in Asia and perhaps in the world. Numbers of rhinos poached peaked in 2002 to at least 38, declined in 2003 and 2004, then rose once again in 2005. This report considers the reasons for the trends in rhino poaching from 2003 to 2005 and explains why people living in buffer zones around the parks are allowing poachers to operate, especially in Chitwan Park. One of the main purposes for the Department of National Parks and Wildlife Conser-

vation (DNPWC) and other organizations to invest relatively large sums of money into the buffer zones was to discourage support for rhino poachers.

We suggest ways that could mitigate the poaching problem, though the worsening political instability and economic situation, due to the Maoist insurgency, are likely to hamper efforts.

Methods

We carried out fieldwork in Nepal for three weeks, starting in mid-December 2005, mainly in Chitwan and Bardia Parks. We interviewed staff of the Department of National Parks and Wildlife Conservation in Kathmandu, forest officers in Chitwan District and in Kathmandu, and many NGO staff of the King Mahendra Trust for Nature Conservation, Wildlife Conservation Nepal, Wildlife Watch and WWF-Ne-



The rhinoceros is a special animal for the majority of the Hindu population of Nepal and is often depicted in art. It plays a role in religious practices, and many parts of its body are used medicinally as well. This pair of statues is on the steps to the temple of Batsala Devi in Bhaktapur.

pal, based in and around the parks and in Kathmandu. We also interviewed senior officers of the Royal Nepali Army who are based inside the parks and discussed with lodge managers in and around the parks the repercussions of the decline in tourism. We examined reports, mostly unpublished, prepared by the Department of National Parks and Wildlife Conservation, and obtained the latest economic and political data from the Asian Development Bank.

NGOs and government officers have accumulated many figures on what poachers are paid for killing rhinos. These figures vary widely. We were fortunate to ascertain more likely prices for rhino horn when we were able to interview recently arrested poachers while we were in Chitwan Park. Not only did they give us information on the amount of money they had received in the past for horn but also what had been promised to them had they not failed in this attempt to poach a rhino. We learned about their background and how they were enticed into this illegal activity.

Recent political and economic events in Nepal that affect wildlife conservation

Maoists in Nepal have been agitating for a socialist government for many years. Serious hostilities began in 1996, and the conflict between the Maoists and government authorities had resulted in the deaths of 13,000 people by the end of 2005 (Haviland 2006). The Maoists have destroyed thousands of public buildings, including telecommunication towers, police posts, post offices, and even guard posts within the parks. These offensive actions made the Army increase its attention to the people's security and concentrate its forces in fewer park posts. About 500,000 people have left on a long-term basis to India (Friedman 2005), and another 2 to 2.5 million are working abroad on a seasonal basis (Asian Development Bank 2004). The human rights abuses the Maoists and government authorities are inflicting are appalling.

The conflict has had serious ramifications on the country's economy. It has slowed to an average of 1.9% annual growth (below the human population increase in the country of 2.3%) from 2002 to 2004, compared with 5% from 1993 to 2001 (Asian Development Bank 2005). Arrivals of foreign tourists declined from a peak of 491,504 in 1999 to 277,129 in 2005 (Nepal, Government 2003; Anon. 2006), which greatly reduced the revenue the parks earned and thereby payments to people in the buffer zones. The military and security costs from 1997 to 2004 almost doubled (Asian Development Bank 2004). The violence, poor security and chaos in the country have also curtailed many foreign-funded projects.

According to the Asian Development Bank (2004), a lasting solution to Nepal's problems will take place only when the root causes are tackled. These are social exclusion of certain castes and ethnic groups, huge economic inequalities, lack of opportunity, poor governance and corruption.

Results

Royal Chitwan National Park

RHINO POACHING AND TRADE IN THE HORN FROM 2003 TO 2005

Park staff carry out a rhino census of Chitwan Valley about every five years. In the 2005 count there were 372, a decline of 32% from 2000, due mostly to poaching but also to natural deaths and because 31 were translocated to Bardia Park, 4 to Suklaphanta Reserve and 2 to Japan (DNPWC 2005). The Department of National Parks and Wildlife Conservation has several sets of official figures on poaching incidents in Chitwan Valley from 2001 to 2005. One set is from unpublished statistics on file in the park headquarters in Kathmandu, which gives the rhino's sex, date and place of poaching, cause of death, and what products, if any, were removed illicitly from the carcass. The second set, also unpublished, lists numbers without details and is from the assistant warden of Chitwan Park in charge of anti-poaching, who is resident at Kasara, the Chitwan Park headquarters. Some of the department annual reports (Subba 2001, 2002, 2003) give a third set of figures and poaching details, but these are not up to date and are for the Nepali financial year, not for the Western calendar, so are not used here. (Financial year statistics, when used in this re-

port, refer from mid-July to mid-July and are written, for example, 2002/03.)

The first set records 94 rhinos known to have been poached over this recent five-year period, while the second set records 101 (see table 1). Usually figures collated in the field are more accurate than those noted in the capital city. We use here the second set of numbers of rhinos poached with the details from the Kathmandu statistics.

Table 1. Known rhino poaching and total mortality from all causes in and around Royal Chitwan National Park from January 2001 to December 2005

Year	Known poached (no.) ^a	Known poached (no.) ^b	Total deaths from all causes ^a
2001	16	15	27
2002	35	38	53
2003	19	22	36
2004	9	11	26
2005	15	15	—
Total	94	101	—

Sources: ^a Department of National Parks and Wildlife Conservation Headquarters, Kathmandu, unpublished
^b K. Kunwar, Assistant Warden and Coordinator of Anti-Poaching, Chitwan Park, unpublished

Both sets of figures show that 2002 was the worst year for rhino poaching in Chitwan Valley—at least 38 animals—since the park was established in 1973. Reasons for this have been published elsewhere (Martin 2004). But the most important cause was the transfer of Royal Nepali Army personnel from 32 guard posts to only 8. In 2003, with the introduction of a new strategy to combat poaching (Martin 2004), the number killed declined to 22. Records state that of these, 16 were shot and 1 was electrocuted. In 2004 11 rhinos were poached, of which 6 are known to have been shot. In 2005 when 15 were poached, 11 were shot and 1 was electrocuted. Most of the rhinos killed illegally during these five years were inside the park.

Maoists are rarely involved in rhino poaching or trade in horn. They claim they want to protect the natural environment and furthermore do not possess the expertise of the poachers and traders. Most of the poachers come from just outside the buffer zone in gangs of four to eight that sometimes include a person from the buffer zone who is familiar with the area.

In January 2006 we met five gang members in confinement in the park at Kasara and interviewed three of them. They had been arrested a few weeks earlier near Sauraha, a village on the northern park boundary, while attempting a poaching operation. All the gang members belonged to the Tamang and Kumal ethnic groups, who live north of the park and are extremely poor. Krishna, 43 years old, said he was a farmer with four children. He admitted killing three rhinos in 2002 and 2003 but said he had been inactive in 2004 because members of his gang had been arrested. Ram, aged 45, had been in a gang that shot a rhino in 2004 and seemed to be the worst off; 7 of the 15 children his wife had borne had died. Surya, aged 20, was the illiterate son of a woodcutter, and this had been his first poaching attempt.

Krishna had organized this gang and was the leader and shooter. Ram said he had been talked into joining to carry the rations. Surya, who said he had been forced to join by Ram, had sold some firewood to obtain the 200 rupees (USD 3) needed to buy rice and vegetables

for the hunt. The gang had some cooking pots, home-made bullets and an axe. Their home-made gun was already hidden inside the park. They were arrested while attempting to enter the park in December 2005.

Poaching gangs usually have one or two guns, almost all home made, as they do not like modern weapons and are unfamiliar with them. They usually enter the park in the evening, intending to stay for several days looking for rhinos. They hunt mostly in the late afternoons then hide during the night to avoid capture by patrols.

When they kill a rhino, the poachers' primary objective is to take the horn, but sometimes they are disturbed or lose the animal. In 2003, of the 19 rhinos poached, 16 had their horns removed and 3 their hooves. In 2004 all 9 had their horns taken, and 2 had hooves missing. In 2005, 12 of the 15 rhinos poached had their horns taken and one had had its tail cut off (DNPWC, unpublished statistics).

The shooter, who is usually the gang leader, obtains around 20,000 rupees (USD 277), and each of

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The Marxists and Maoists, seen here waving their red flags and marching in Bhaktapur in December 2005, are indirectly responsible for the deaths of many rhinos in Nepal, due to the decline in law and order.

the other members 10,000 to 15,000 rupees for an average horn weighing around 700 g. When we interviewed Krishna, he said in 2002 he received 22,000 rupees (USD 287) while the others in the gang got 10,000 rupees (USD 130) each for a horn. In 2003, when Krishna was just a gang member, he was paid 10,000 rupees (USD 128) for a horn. In mid-2004 Ram received the same. In 2005 Surya was promised 10,000–20,000 rupees (USD 138–277) if the gang succeeded.

The poachers sell their rhino horns to middlemen in towns such as Narayanghat (where Krishna sold his horns), Pokhara and Hetuada. The horns usually end up with wealthy traders in Kathmandu. One of these traders, Pemba Lama, was arrested in the Chitwan Valley in June 2005 and was in prison awaiting trial during our visit. He gave useful information to the authorities. He is a Nepalese citizen of Tibetan origin and had been buying rhino horns since about 1998. The Department of National Parks and Wildlife Conservation staff think he has sold about 50 horns, but he admitted to only 20. Most of these came from Chitwan Valley, but also some from Bardia Park, and one or two from India (Kamal Kunwar, Assistant Warden, Co-ordinator for Anti-Poaching, Chitwan Park, pers. comm. January 2006). Lama also traded in medicinal plants and had made a lot of money. By the time he was 40 in 2005 he had accumulated at least one large house in Kathmandu, other properties and several cars. In June 2005 he went to Nawalparasi District (as he had done before, along with visits to Narayanghat) to buy horn from one of his middlemen. Park officials arrested him carrying a horn. He was about to give a middleman 446,000 rupees (USD 6169) for another horn weighing 700 g. Lama told the officials he usually bought horns for the equivalent of USD 4250 to USD 5700. He sold them to Tibetans in Kathmandu, who sent them to Tibet (Anon. 2005; Thapaliya 2005; Yonzon 2005; Kunwar, pers. comm. December 2005; Shiva Raj Bhatta, Chief Warden, Chitwan Park, pers. comm. January 2006).

WHY DID POACHING DECLINE IN 2003 AND 2004?

In early 2003, to combat the escalating rhino poaching the parks department introduced new anti-poaching measures. The main ones were: 1) so-called sweeping operations, with large groups of park and Army personnel intensively patrolling; 2) greater incentives for patrollers; 3) joint patrols of Army and

park staff together; 4) Army and park staff being authorized to make arrests outside the park; and 5) more efficient use of informers and more reward money (Martin 2004). Rhino poaching declined as a result, but not enough; thus further measures had to be taken in 2004 and 2005.

Most significantly, the park increased the number of its informers from 7 in 2003 to 20 by 2005, and helped them improve their ways of collecting information on potential rhino poachers and traders. The performance of the informers steadily improved. In 2002 they were terrified of the Maoists, but with reassurance from the park staff they overcame their fear and have done a better job (Bhatta, pers. comm. December 2005). Three NGOs (International Trust for Nature Conservation, King Mahendra Trust for Nature Conservation and WWF-Nepal) provided 61,000 rupees (USD 783) each month in 2003 for the informers and raised this to 81,000 rupees (USD 1120) by 2005. The Army also provided some money for its own informers. An intelligence-gathering system is recognized as the most effective anti-poaching measure, and its cost is extremely low, less than 1% of the total park and Army budgets for Chitwan Park.

As a result of the expanded and improved intelligence system, various government authorities caught more poachers in Chitwan Valley, which was the main reason why the number of rhinos illegally killed fell. From 2002 to 2003 authorities arrested 26 rhino poachers (Martin 2004). From July to December 2004 they caught 16 rhino poachers (Kunwar, pers. comm. December 2005). From January to November 2005 authorities arrested 46 rhino poachers, middlemen and traders. In addition, during 2005, 11 tiger and leopard poachers and skin traders, 16 timber smugglers, and 106 others dealing in illegal firewood and other products were arrested (Manandhar and Subba 2004; Thapaliya 2005). With the help of informers the Army arrested two traders and confiscated four rhino horns in Chitwan Valley, bringing the traders and the horns to the Kathmandu District Forest Office (Kamal Shrestha, District Forest Officer Kathmandu, pers. comm. December 2005).

The Army changed its strategy to allow the men stationed in the parks to go on patrol to more of the surrounding areas rather than keeping so many men on post. This made it more difficult for the poachers to evade the soldiers (Lt Col. Ajit Thapa, Battalion Commander, Chitwan Park, pers. comm. January 2006).



This poaching gang was arrested in December 2005 while attempting to enter Royal Chitwan National Park to hunt rhinos.

WHY WAS THERE A RISE IN POACHING IN 2005 COMPARED WITH THE YEAR BEFORE?

The new anti-poaching efforts worked especially well in late 2003 and 2004. However, according to Bhatta, there was a gradual breakdown in communications from mid-2004 onwards. There was a drop in the morale of park staff when five staff from the adjacent Parsa Wildlife Reserve were killed in a mine blast laid by Maoists. One of only four vehicles used for patrolling Chitwan was destroyed in this attack, reducing staff mobility (Bhatta, pers. comm. January 2006). Another park vehicle in Royal Suklaphanta Wildlife Reserve (in western Nepal) with 3 park staff and 10 illegal timber traders was also blown up in a Maoist mine blast (Tirtha Maskey, director general until January 2006 of DNPWC, pers. comm. August 2006). Narayan Poudel, the deputy director general of DNPWC based in Kathmandu, further believed that the poachers found gaps in Chitwan Park's anti-poaching strategy and that the staff had become somewhat inactive and complacent (pers. comm. January 2006).

Kunwar agreed with this remark, adding that park staff became overconfident in early 2005 because they had been so successful in reducing rhino poaching in 2004 (pers. comm. January 2006).

CHITWAN'S BUFFER ZONE AND IT ROLE IN RHINO CONSERVATION—A DOUBLE-EDGED SWORD

Many of the 250,000 people living in the 750 km² Chitwan Park's buffer zone are still extremely poor and have started to complain vociferously that rhinos cause destruction and that they are not receiving enough compensation or adequate benefits. Some are so disillusioned they are even assisting rhino poachers.

The buffer zone concept was promulgated for Nepal's protected areas in 1993 by an amendment to the National Parks and Wildlife Conservation Act of 1973 to help make the local community rely on buffer zone products rather than park resources and to win their support for conservation. The buffer zones were to be mostly funded by 30–50% of the revenue raised

by each park. For Chitwan Park, the buffer zone was created in 1996, and following discussions with the Buffer Zone Management Committee, 50% of the park's revenue was to go to the local communities (Upadhyay c. 2002; Manandhar and Subba 2004). From 1999 to 2004 the park provided to the Buffer Zone Management Committee approximately USD 2,200,000, but it has spent only about half, holding on to the rest for projects not yet started (Adhikari et al. 2005). The buffer zone has also received relatively large sums of money from the United Nations (under the Participating Conservation Programme of the United Nations Development Programme), the King Mahendra Trust for Nature Conservation, WWF-Nepal and other NGOs.

The money is earmarked to help communities living in the buffer zone develop projects to improve their livelihoods, but unfortunately not enough is actually provided, leading to some disillusioned locals. Locals are also asked not to permit rhino poachers to pass through to the park nor assist them. It is in the local people's interest to keep poachers out of the park, especially rhino poachers: if the park's large animals are killed, fewer tourists will come—a disaster for local people, who get half the park's revenue, almost all based on tourism. Unfortunately, many local people do not understand this link, partly as they are not getting enough of the funds (Maskey, pers. comm. August 2006). Park staff and local leaders have all agreed that this is a problem. For example, Ganga Thapa, Executive Officer, King Mahendra Trust for Nature Conservation, said that not enough emphasis goes into educating local people about the benefits they can accrue by protecting the park. Chandra Gurung, Country Representative of WWF Nepal Program, concurs, 'We have a good policy of buffer zones, but we have had difficulties in convincing the buffer zone communities how important conservation is to them' (pers. comm. January 2006). Kunwar laments that the buffer zone people are indifferent about helping him in his anti-poaching strategy and rarely give him information on potential poachers (pers. comm. January 2006). Ashok Bhandari, the ranger for the eastern part of Chitwan Park, admits that his staff have been unable to convince many local people that they benefit by protecting the biodiversity of the park.

There are several further explanations why people are not interested in conservation: 1) The Buffer Zone Management Committee receives half the an-

nual park revenue whether or not the people protect the park from poachers, so local people have little incentive to stop poachers. 2) The amount of money given to the buffer zone has declined as Chitwan Park's revenue has fallen. Revenue decreased by 63% from 2000/01 to 2004/05 in US dollars equivalent excluding any inflation factor (see table 2). This was mostly due to the collapse in tourism from 117,512 visitors in 1999/2000 (the highest recorded) to only 42,654 in 2004/05, a 64% reduction (statistics from Royal Chitwan National Park, unpublished). The reason for this is the Maoist insurgency, not a lack of biodiversity nor because of rhino and tiger poaching. It is in the interest of the local people to protect the wildlife and to keep the habitat intact so that tourists will return when the country becomes stable. But waiting in anticipation of a future benefit is difficult for poor and hungry people. Researchers Mark Murphy, Krishna Oli and Steve Gorzula have written, 'The primary problem with the buffer zone system in Nepal is that it has not lived up to ... expectations. The benefits have been limited, and therefore the expected behaviour change which would reduce pressure and enhance the conservation of biological diversity has not happened as envisioned' (Murphy et al. 2005).

Table 2. Revenue earned by Royal Chitwan National Park, 2000/01 to 2004/05

Year	Nepalese rupees	US dollars
2000/01	74,302,801	1,041,385
2001/02	38,887,119	517,116
2002/03	30,831,199	398,885
2003/04	40,060,770	528,158
2004/05	28,137,909	385,187

Sources: Manandhar and Subba 2004; Department of National Parks and Wildlife Conservation Headquarters, Kathmandu, unpublished

There is also a problem as to how the Buffer Zone Management Committee and the user committees decide who receives the money from the park. Mainly two sorts of people live in the buffer zone: so-called non-farmers who are mostly landless and marginalized peoples, and farmers who are not so poor and have some land. There are also some professional workers, such as teachers and nurses, but they are a small minority. The first group consists of Chepangs,

Bote and Majhi peoples. According to 444 interviews carried out in late 2003 and early 2004 by Adhikari et al. (2005), these people belong to the lower castes of Hindu society, 86% to the Baisya caste. In Adhikari's survey, not one landless family belonged to the upper castes, the Brahmins and Chhetris. On average, the unemployed non-farmers had only 1.7 years of formal education compared with 4.4 years for the farmers. The marginalized people formerly lived along the rivers and in the forests, and were hunter-gatherers. When the park was created in 1973 they were only allowed to fish using traditional cast nets and to collect thatch grass only once a year in the park. Now they are very poor, and they have few alternative sources of income, so they are tempted to poach in the park's forests. As their resentment builds, these people are becoming more sympathetic to the goals of the Maoists (Adhikari et al. 2005; Chitwan Park staff, pers. comm. January 2006).

Several people said the Buffer Zone Management Committee and the many user committees are run by the higher castes. They ensure that they receive a

higher proportion of the resources than the poorest of the poor, who do not receive a fair sum. Consequently, many of the very poor remain without jobs and education.

Poudel also believes that the poorest people in the buffer zone do not receive a fair share of the park's money, and more poverty alleviation projects are needed. The Adhikari report of 2005 concluded 'the community development programmes do not reach the poor and marginalized communities at individual household levels. ... Local people, particularly poor and indigenous communities, do not have access to decision-making for benefit sharing.'

Adhikari's survey showed that the farmers can be divided into three economic groups: poor, moderate, higher income. The poor farmers are mostly from the lower castes (53% from the Baisya group), while the higher income families are from the higher castes. His survey also showed that the damage to crops by rhinos amounted to 3320 rupees (USD 42) per family each year for both the moderate and the higher income families. They have to put up with the loss



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The best way to observe rhinos in Nepal is from the back of an elephant, which can approach them closely.

and spend money erecting barriers as a deterrent. The government does not have a formal scheme to pay compensation for damage to crops or buildings. The government pays automatically only for human deaths caused by wild animals, and that is just 25,000 rupees (USD 352) per fatality. From 2001 to 2005 rhinos killed 16 people in Chitwan Valley, 5 in 2005 alone. Damage to crops and houses and frequent casualties have antagonized the farmers, some of whom get annoyed and turn to assisting rhino poachers.

All these issues need to be resolved to improve the attitudes of the people in the buffer zone. In addition, some of the money from park revenue that is allocated to the buffer zone should be spent on employing local people full-time to patrol it especially along the park boundary. This has been done successfully by communities living around West Bengal's Gorumara National Park where rhinos are flourishing (Martin 2006) and in some of the buffer zone areas in Nepal's Bardia National Park. The Buffer Zone Management Committee should set up in cooperation with park management an intelligence network of paid informers and should offer reward money.

Royal Bardia National Park

RHINO POACHING AND TRADE IN HORN FROM 2003 TO 2005

Maoists living inside the park have prevented a rhino census since 2000. Between 1986 and 2003 park staff, with the assistance of WWF-Nepal and the King Mahendra Trust for Nature Conservation, translocated 83 rhinos from Chitwan to Bardia; but most people believe, despite breeding, that the number in the park is now much less than this.

The two main locations for rhinos in the park are the Karnali Flood Plain in the west and the Babai Valley in the south-east. The floodplain population estimate is 30 to 33 plus 7 that have moved outside the park. The number of rhinos in the Babai Valley is unknown as the Maoist presence deters the Army, park staff and tourists from going there. Puran Shrestha, the chief park warden, hopes there may be as many as 37 to 47 (pers. comm. January 2006). Others, including Poudel, believe the number is much lower. WWF-Nepal staff counted 15 rhinos in 2004 but they could not finish their survey because Maoists stopped them and took their equipment (Anil Manandhar, WWF Nepal Program, pers. comm. January 2006).

The year 2003 was the worst for rhino poaching in Bardia Park. Poachers killed at least nine rhinos, all in the Babai Valley. Six of these are known to have been shot. The poachers took all the horns and removed hooves from four of them. One carcass had some of the skin missing and from another the head had been taken.

In 2004 poachers are known to have killed two rhinos by poisoning in the Babai Valley. One had its horn and hooves removed but the other did not. Information from the Babai Valley is sparse but so far as is known no rhinos were poached in 2005 (see table 3) (DNPWC unpublished).

Table 3. Known rhino poaching and total mortality from all causes in and around Royal Bardia National Park, 2001–2005

Year	Number known poached	Total deaths from all causes
2001	0	0
2002	3	5
2003	9	10
2004	2	3
2005 (to mid-Dec)	0	—

Source: Department of National Parks and Wildlife Conservation Headquarters, Kathmandu, unpublished

The poachers come from beyond the park buffer zone. Most are from the Taratal area near the Indian border or from the Surkhet area north of the park. Taratel poachers are familiar with the Babai Valley as their families lived there before the government moved them out in the early 1980s (DNPWC 2001). They use mostly homemade rifles and bullets to kill the rhinos. A gang of three or four rhino poachers in 2003 received between 40,000 and 50,000 rupees (USD 513–642) for a rhino horn from traders who live just outside the buffer zone, according to Ramesh Thapa (pers. comm. December 2005), a ranger who has worked in Bardia Park since 1990 and who has interrogated many poachers. The traders sell it for 100,000 to 200,000 rupees (USD 1284–2567) to other traders in Nepalgunj and Pokhara who come from the hilly areas of the country, especially from the Humla District near Tibet. They also buy other wildlife products, such as tiger bones and skins, and arrange for the wildlife products to get to Kathmandu for export to Tibet.



A poacher sees money, the government sees revenue, and the tourist sees an endangered animal.

REASONS FOR PRESUMED DECLINE IN RHINO POACHING IN BARDIA PARK, 2004 AND 2005

The main reason for the improved protection of Bardia's rhinos was that the Army reoccupied a seventh post in 2004, providing more security in the park (Lt Col. Ashok Sigdel, Battalion Commander, Bardia Park, pers. comm. December 2005). Patrolling also expanded in the buffer zone, an area of 328 km² where about 130,000 people live. In 2004 the Buffer Zone User Groups set up some anti-poaching teams organized by the Terai Arc Landscape Program of WWF-Nepal. Each consists of three or four people from the buffer zone and concentrates on patrolling the park and buffer zone boundaries, often with District Forest Office staff (Bidya Shrestha, Business Development Officer, Terai Arc Landscape Program of WWF-Nepal, Thakurdwara, Bardia Park; Sigdel and P. Shrestha, pers. comm. December 2005). In addition, about 30 members of the Nature Guide Association of Nepal patrol the park boundaries, especially along the rivers (Thapa and Naresh Subedi, the King Mahendra Trust for Nature Conservation Bardia Conservation Programme, pers. comm. December 2005).

In 2004 the Buffer Zone User Groups set up committees to gather information on poaching and trading wildlife products, and by the end of 2005 there were 15 such committees consisting of students, teachers, social workers and others. They collect important information to give to the park staff and Army. This has helped scare away potential rhino poachers (Thapa and P. Shrestha, pers. comm. December 2005).

Bardia Park has its own information system for which three informers receive a monthly stipend of 2000 rupees (USD 28) from the Terai Arc Landscape Program of WWF-Nepal. The park also has reward money supplied by the government; in 2004, 50,000 rupees (USD 678) were paid to 15 people who supplied information on rhino poachers. Information gathering in Bardia became more efficient in 2004 and 2005. As a result, in 2004/05 park staff were involved in the arrest of, among others, 38 animal poachers, 61 illegal grass cutters, 104 firewood collectors, 78 woodcutters, and 46 people illegally collecting plants (Bardia Park, unpublished statistics).

In October 2005, rhino poachers were discouraged even further from entering Bardia when the Army increased its strength from around 500 to 870

men, from 4 to 6 companies. By December 2005 they had reoccupied 2 more of the original 14 posts, Bhurigaun and Ramuwapur, both on the edge of the Babai Valley, making a total of 9 Army posts scattered through the park (Sigdel, pers. comm. December 2005).

DROP IN BARDIA PARK REVENUE

In 2000/01, revenue earned by Bardia Park declined with the fall in tourism. As in Chitwan, the buffer zone receives half this revenue so the fall in tourism has had an adverse effect on communities living around the park. From 2000/01 to 2003/04 park revenue declined by 64.5% in US dollars (see table 4). From 2000/01 to 2004/05 the number of tourists dropped from 9940 (6715 foreigners, who pay the highest fees) to 1173 (661 foreigners), over a 90% decline in foreigners (Bardia Park, unpublished statistics). In December 2005 we surveyed 20 tourist lodges and tented camps around Bardia, of which 8 were closed due to the shortage of tourists. For the 210 beds available on one day there were only 18 guests. In 2000 these camps and lodges employed 300 staff, but had only 75 at the end of 2005. The Maoist rebellion is responsible for the decline in tourism. Most people drive to Bardia, but there are so many roadblocks that it takes at least 2 days to get from Kathmandu to the park, a distance of 600 km. This journey takes even longer when the Maoists declare a strike, preventing the movement of cars, buses and trucks on the highway. Negative reports in the media, and travel agents (who advise the few tourists who are planning visits to Nepal to go to Chitwan instead of Bardia) have practically ruined tourism in this park.

Because rhinos do not cause much damage outside the park there is very little animosity towards them. In 2004/05, for example, only one house was reported damaged by a rhino, and park staff paid 1000

rupees (USD 14) for this damage. Only three people were reported injured by rhinos and they received in total 13,500 rupees (USD 185); there were no deaths (unpublished statistics, Bardia Park). As such incidents have been few and people are compensated, they are less likely to collude with rhino poachers. This has allowed the rhinos we know of, especially in the Karnali Flood Plain near the park boundary, to remain relatively safe.

Chitwan and Bardia Park budgets and workforce

All parks in Nepal get a regular subvention for their development and management. The parks also earn revenue, nearly all from tourism, half going to the government and half to the buffer zone committees. The total budget allocations and Army funds given to Chitwan and Bardia Parks are high compared with most other protected areas with rhinos in Asia. It is not possible to obtain a precise figure for each park because the Army budgets are classified. We can, however, estimate them. We can calculate an average cost of each park employee by dividing the budget of the park (including the main NGO contributions to the buffer zone and intelligence fund) by the number of park employees. We multiply this figure by the number of park employees and Army personnel stationed in the park to estimate the complete budget for the park.

In 2004/05 the complete budget for Chitwan Park (park plus Army), including some money for the buffer zone, was approximately 120,000,000 rupees (USD 1,650,000). If this amount is divided by the 932-km² size of the park, the result is USD 1760/km². If we consider only the government money and exclude the NGO contribution, the figure is not much less—USD 160/km². The 2004/05 complete budget (park plus Army) for the 968-km² Bardia Park, including funds from Care International (SAGUN money) and intelligence money, was 117,000,000 rupees (USD 1,600,000). As before, this is USD 1660/km², reduced by USD 120/km² if NGO funds are ignored.

Besides the high budgets for these two parks, there are many employees: over one man per km². Chitwan Park has about 1105 full-time staff, including Army personnel, and there are 997 people in Bardia, also including the Army. Almost all are involved in patrolling at some time. This is one of the highest ratios

Table 4. Revenue earned by Royal Bardia National Park, 2000/01 to 2003/04

Year	Nepalese rupees	US dollars
2000/01	9,821,784	137,656
2001/02	4,376,583	58,199
2002/03	2,777,655	35,933
2003/04	3,710,146	48,914

Source: Manandhar and Subba 2004

in the world of people per square kilometre for government-managed large wildlife areas.

Recommendations

The budgets and the number of people working in Chitwan and Bardia Parks are sufficient to reduce rhino poaching if certain changes are made.

- The Army must spread out and reoccupy more of their old posts.
- The Army and the parks must improve all aspects of their anti-poaching patrols. Recent studies in Chitwan Park have concluded that anti-poaching strategies are crucial for the protection of the rhino (Poudyal et al. 2005; Poudyal and Knowler 2005; Knowler and Poudyal 2005). Simulation models by Knowler and Poudyal (2005) “indicate that ... a conventional conservation strategy, emphasizing the role of anti-poaching units (APUs), is likely to increase the rhino population to a greater extent than the other strategies ...”.
- NGOs, the parks and Army must provide more money and workforce for the intelligence-gathering networks.
- Strategies against poachers must be continually updated so that the poachers do not get familiar with the tactics employed. Army officers in the parks said that being one step ahead of the poachers and being able to surprise them, and intelligence networks, are the main aids to defeating poachers.
- The Buffer Zone Management Committees need to spend more money on conservation issues.
- The Buffer Zone Management Committees need to spend more money on teaching local people the advantages to them of conserving rhinos because they receive half the parks’ revenues.
- The Buffer Zone Management Committees must allocate more of their funds to the poorest people.
- Since crop damage causes the most antagonism, the Buffer Zone Management Committees should consider paying compensation for crop loss around Chitwan.

Strong anti-poaching strategies within Chitwan and Bardia Parks, based on patrolling and intelligence networks, combined with support from the communities living around the parks, will ensure successful rhino conservation in Nepal.

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