

Recent political disturbances in Nepal threaten rhinos: lessons to be learned

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Abstract

This article describes rhino poaching in Nepal during the Maoist insurgency and the social unrest that took place from 2000 to late 2007, with special emphasis on the latter two years. There are three areas in Nepal with rhinos: Chitwan and Bardia National Parks and Suklaphanta Wildlife Reserve. In 2006 there were at least 21 rhinos poached in Nepal, a continuing trend of serious poaching since 2001. In 2007, poaching fell; officials recorded only five rhinos known to have been poached, although in reality the figure was higher. That year the country returned to relative peace and many of the guard posts were re-instated. New approaches to rhino conservation in Nepal are needed now, including those that have proved to be successful elsewhere in Asia and Africa, in order to better safeguard Nepal's rhinos once more. The rhinos are particularly vulnerable when they wander outside the protected areas. Recommendations are given, such as consideration for some rhinos to be managed in temporary sanctuaries, both governmental and private. The recent political unrest has been a warning that in such conditions a country can be de-stabilized very quickly with government and Army attention shifted away from wildlife conservation. Rhinos in these circumstances are easy targets to poachers. Thus, more involvement of the private sector in rhino protection is vital.

Résumé

Ce rapport décrit le braconnage du rhinocéros au Népal pendant la révolte maoïste et les troubles sociaux qui ont eu lieu de 2000 à la fin 2007, en mettant un accent spécial sur les deux dernières années. Il y a trois régions au Népal ayant des rhinocéros: les Parcs nationaux Chitwan et Bardia et la Réserve de la faune de Suklaphanta. En 2006, il y avait au moins 21 rhinocéros braconnés au Népal, une tendance continue de braconnage sérieux depuis 2001. En 2007, le braconnage a baissé; les fonctionnaires ont enregistré seulement cinq rhinocéros connus pour avoir été braconnés, bien qu'en réalité le chiffre fût plus élevé. Cette année-là le pays est revenu à une paix relative et beaucoup de gardiens ont été réemployés. On a maintenant besoin de nouvelles approches à la conservation du rhinocéros au Népal, y compris celles qui ont réussi ailleurs en Asie et en Afrique, pour mieux sauvegarder encore une fois les rhinocéros du Népal. Les rhinocéros sont particulièrement vulnérables quand ils s'égarant à l'extérieur des zones protégées. Les recommandations sont données, telles que la considération que quelques rhinocéros soient gérés dans des sanctuaires temporaires, par le gouvernement et le privé. Les récents troubles politiques sont un avertissement que dans de telles conditions un pays peut être déstabilisé très rapidement, l'attention du Gouvernement et de l'Armée étant détournée de la conservation de la faune. Dans de telles circonstances, les rhinocéros sont une cible facile pour les braconniers. Donc, une plus grande participation du secteur privé dans la protection du rhinocéros serait vitale.

Introduction

Since 2000 Nepal's rhino population has declined more severely due to poaching than that of any other Asian country. In the previous decade, the rhinos were relatively secure (Martin 2001; Adhikari 2002; Martin 2004; Sakya and Chitrakar 2006; Martin 2006). From 2000 to the end of 2007 (when field research

for this paper was concluded), the rhino population in Nepal fell from 612 to an estimated 444, a reduction of almost 30%. Most were poached for their horns. Bardia National Park (NP) suffered the most, losing more than half its rhino population to poachers. In 2006 there was also significant rhino poaching in and around Chitwan NP. The main reason for this catastrophe, after years of successful rhino conservation,

was the serious political disturbance in the country, mostly as a result of the Maoist rebellion. The political instability greatly affected the country with perhaps 1,500 people killed in 2005 (Parwez 2006). The economy was severely damaged with gross domestic product growth at constant prices declining from 4.7% in 2004 to 2.8% in 2006 (Asian Development Bank 2007). After the Maoist peace accord in November 2006, poaching fell in 2007 (see Table 1). Lessons must be learned from these disturbances over the last few years in order to avoid future flare-ups in rhino poaching when law and order breaks down.

This article will look at poaching problems in Chitwan NP in 2006 and in 2007, Chitwan's budget in the fiscal year from mid-2006 to mid-2007, its most recent anti-poaching strategies, rhino horn stockpiles as well as the recent poaching problems facing Bardia NP and Suklaphanta Wildlife Reserve (WR), where four rhinos were re-introduced in 2000. It will then consider which policies for rhino conservation would be the most effective in Nepal.

Methods

The Martins carried out fieldwork in Nepal in December 2007 visiting the three protected areas with rhinos and meeting officials in Kathmandu. Specifically, they interviewed staff of the Department of National Parks and Wildlife Conservation (DNPWC), officers of the Nepali Army based in the Parks, Forest Department staff and NGO personnel. The NGOs included: International Union for the Conservation of Nature (IUCN), International Trust for Nature Conservation (ITNC), National Trust for Nature Conservation (NTNC), World Wide Fund for Nature (WWF), Wildlife Watch Group (WWG), and, later in UK, the Zoological Society of London (ZSL). They also met an officer of the Buffer Management Committee in Bardia NP, spoke to staff at some of the park tourist outlets, met Nepali journalists and talked to independent conservationists. Esmond Martin studied unpublished reports produced by the DNPWC. He obtained details about the Army budget for Chitwan NP (the first published since 1995). He also collated DNPWC rhino horn stockpile figures. He collected papers on the ethnicity and castes of the Nepalese from the Asian Development Bank in Kathmandu to better understand the hierarchies amongst these groups in the buffer zones. All interviewees were helpful and willing to share information in order to reduce threats to Nepal's rhino conservation.

Results

Table 1. Official numbers of rhinos known to be poached in and around Chitwan and Bardia National Parks, 2001–2007

Year	Chitwan NP	Bardia NP
2001	15	0
2002	38	3
2003	22	9
2004	11	2
2005	15	0
2006	19	2
2007	1	3
Totals	121	19

This figure is an underestimate as in reality well over 60 rhinos were poached (but not found due to lack of patrols in the key area) in this period.

NB: Official numbers of poached rhinos are generally underestimates.

Sources: Martin 2006; DNPWC Headquarters; Chitwan and Bardia NPs unpublished.

Chitwan National Park, 2006

According to a census in 2000, there were an estimated 544 rhinos in and around Chitwan NP. The Park, an area of 932 km², consists of floodplain grassland, riverine forest and sal forest in the Terai (a belt below the Himalayan foothills). From 2001 to 2005 at least 101 rhinos were poached in and around Chitwan NP (Martin 2006). Poaching continued at a high level in 2006 with a minimum of 19 rhinos killed out of a population of around 400. Of these, nine were poached within the Park, mostly near the northern boundary. The remaining 10 were poached north



Rhinos in Nepal prefer the wet areas with long grass compared to the forests.

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of the Park in the community forests, especially in Panchakanya, Chaturmukhi, Chitrasen and Bhimbali. This shows that the likelihood of rhinos being poached outside the Park is much greater than inside. There are at least 40 rhinos that graze outside and these have a high chance of being poached. Anti-poaching efforts are simply not adequate to protect the rhinos outside the Park.

Poachers shot dead 16 of the 19 rhinos in 2006 and three were electrocuted. Horns were taken from 14; officials found three carcasses intact and two were unrecognizable. Poaching methods and money paid to the poaching gangs in 2006 were similar to those of 2004 and 2005 (Martin 2006). Traders transported the 14 horns (and no doubt a few more from carcasses that were not found by officials) to the larger towns in the area, such as Bharatpur and Narayanghat. From there middlemen brought them to Kathmandu for export.

An Army battalion has been based inside the Park for some years, mainly to protect rhinos and other endangered species. There were 32 manned Army posts in 2001 but by 2006 the battalion occupied only seven of these, one fewer than the previous year. This was because the Army did not have sufficient manpower to protect itself in case of a Maoist attack (Anil Manandhar, WWF Nepal, and Prabhu Budhathoki, IUCN, pers. comm. December 2007). The soldiers in the Park patrolled less, largely because they were in fewer posts (Budhathoki, pers. comm. December 2007). The Park's department staff also consolidated into fewer posts; they do not carry firearms, relying on the Army for these. Thus the effect was devastating for the rhinos; poachers found it easy to cross the northern boundary into the Park unspotted by the Army and Park staff to shoot rhinos. They also killed rhinos outside the Park in the community forests—where the rhinos commonly wander.

The government and NGOs reduced funding for 'special patrolling' and 'sweeping operations' (this is when the Park staff and Army carry out an anti-poaching sweep through areas of the Park). Less than a million rupees (USD 13,644) were spent for this and for NGO-funded intelligence for 2006. This was inadequate (Ana Nath Baral, Assistant Warden, Chitwan NP, pers. comm. 2007).

Another reason for the high poaching in 2006 was that the morale of the Park staff had ebbed to a new low (Mishra 2008) due to an incident affecting three senior and experienced staff members. In May 2006 a poacher in the Park's custody had to be taken to hospital where he soon died. Local people went to the

authorities saying he had been severely tortured. Consequently, the Police arrested the Chief Park Warden (Tika Ram Adhikari), the Assistant Warden (Kamal Kunwar) and a ranger (Ritesh Basnet). Mr Adhikari was released on bail but the others were jailed for 266 days each (Kamal Kunwar, pers. comm. 2007). Not only were the Park staff demoralized by this, but also some NGOs stopped providing support for intelligence. Furthermore, the communities felt unable to trust the officials. Poachers and traders naturally took advantage of this episode of mistrust.

The central government aggravated the situation when the Cabinet released 13 poachers in August 2006 and two more the following month (Anon.2007a). Chief park wardens had also been handing out lenient sentences to rhino horn poachers and traders. For example, the new Chief Park Warden for Chitwan issued a light sentence to one of the biggest rhino horn traders ever caught; he pronounced a five-year prison sentence—instead of the maximum 15 years—and a fine of 100,000 Nepali rupees (USD 1400) to the notorious Pemba Lama who admitted to selling 20 rhino horns (Martin 2006). This again sent an encouraging message to other poachers and traders.

There were, however, two helpful incidents that year. The first concerned Kathmandu's District Forest Officer who made two arrests of three men with three horns, probably from Chitwan NP; this was in contrast to 2004 and 2005 when his office had confiscated no horns (Braj K. Yadav, DFO, Kathmandu, pers. comm. December 2007). The second incident regarded assistance offered from India to Nepal to stop an important poacher. An employee of Chitwan NP had become a rhino poacher several years earlier, chasing and spearing several rhinos using Park elephants. He was finally arrested in 2002 for killing rhinos and sentenced to 15 years in prison. Unfortunately, he escaped and fled to India where authorities believe he collaborated with the infamous Indian trader, Samsar Chand. In 2006 the Indian police arrested the Nepali poacher in India and seized a gun from him. A senior DNPWC officer went to India to bring him back to serve out his sentence (K. Kunwar, pers. comm. December 2007 and DNPWC December 2006).

Chitwan National Park, 2007

The incidence of rhino poaching dropped in 2007. Officials know of only one rhino, a female, which was poached in that year. It was shot in June 2007 by a gang of five Nepalese, some of who escaped to India

while one was caught. The poachers took the horn, but not the nails (K. Kunwar, pers. comm. December 2007). The poachers may have killed a few more; for example, Park authorities found a carcass during their rhino census in March 2008.

The most important reasons for the reduction in rhino poaching in 2007 was that law and order started to improve after 24 April 2006 when the King relinquished his power and Parliament was re-instated. On 27 April 2006 the Maoists announced a unilateral three-month truce, and in November 2006 the Prime Minister signed a peace agreement with the Maoists that essentially ended the war.

With improved security in Nepal, the Army was able to re-establish 15 more posts in Chitwan NP making a total of 22 posts by mid-2007. The Army, feeling less threatened by the Maoists, started to patrol in larger areas of the Park and conduct more surveillance at night. The Park staff felt more confident with the expanded presence of the Army so they too patrolled more, no longer fearing ambushes, as did the district forest officers surrounding the Park. Thus, although patrol work was still not enough, the situation improved in 2007. Some volunteer youth groups became more involved in anti-poaching activities outside the Park (Purna Bahadur Kunwar, Terai Arc Landscape Programme, WWF, pers. comm. December 2007). Villagers became less fearful regarding Maoist and government violence and felt confident to offer more information to the Parks Department about potential poachers and traders. The informant network thus became active once again and NGOs provided more funds (K. Kunwar, pers. comm. December 2007). The Forest and Parks departments also mended some of their fixed-line and mobile telephone infrastructure. Thanks to better patrolling, intelligence and communications, arrests went up. In 2005/06 there had been 48 arrests of wildlife poachers with 36 jailed whereas in 2006/7 there were 66 arrests and 36 jailed. More were arrested and jailed later in 2007 (unpublished statistics, Chitwan NP).

As a result of the heavy poaching that had occurred in 2006, civil society became more vocal, especially in 2007, in support of Nepal's parks. First, in December 2006 students of Eco-Clubs handed a petition to the Minister of Forests and Soil Conservation (in charge of DNPWC); it was signed by more than 100,000 people and requested that the government be more active in wildlife conservation (Manandhar, pers. comm. December 2007). Second, in early 2007,



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The base of this rhino horn looks authentic, but the horn is made of wood and painted black to deceive potential customers.

other civil society groups such as political parties, the local Chitwan Hotel Association and people from the buffer zone councils applied pressure on the government to eliminate the charges brought against Tika Ram Adhikari, Kamal Kunwar and Ritesh Basnet, as they had a proven track record for wildlife conservation (Anon.2007b) and were desperately needed back in the Parks Department. Third, the local media and NGOs, such as IUCN, NTNC and ZSL, complained about the lenient sentences that some chief park wardens had been handing out; for example, they heavily criticized the Chief Park Warden's action of giving the infamous trader, Mr Lama, such a light sentence (Anon.2007c). They also publicized in the press and in newsletters the urgency to stop rhino poaching in Nepal.

The government finally responded by recommending that the sentences for rhino poachers and middlemen dealing illegally in horns should, in most cases, be increased and that higher priority should be put on rhino conservation. The government allocated a special budget of USD 57,423 for the Army and Parks Department posts within the Park (unpublished statistic from Chitwan NP). The government withdrew the case against Mr Adhikari and his two colleagues in March 2007, which improved the morale of the Chitwan NP staff and increased their confidence to pursue poachers. The government put greater effort into catching and prosecuting smugglers and traders in Kathmandu, the main entrepôt for rhino horn in Nepal. Government officials arrested a former well-known Nepalese pilot and his four accomplices in Kathmandu in March 2007. He had illegally been buying bullets from a Nepali soldier and was caught with a rhino horn in his house. The pilot reputedly had been negotiating to sell horns from Chitwan to an ethnic Tibetan (the main rhino horn exporters) living in Kathmandu.

In 2007 relative stability brought an increase in the number of tourists and revenue into Chitwan NP. Tourist numbers rose from 54,395 in 2005/6 to 79,086 the following year, more specifically, from 35,838 foreigners, 14,977 Nepalese and 3,580 from South Asian countries (SAARC) up to 48,921 foreigners, 24,690 Nepalese and 5,475 from SAARC. Revenue rose from 38,025,696 Nepali rupees (USD 521,000) to 40,952,072 Nepali rupees (USD 573,500). Park entry fees in the fiscal year 2006-7 comprised 72% of the total Park revenue, followed by hotel royalties (15%), boat tenders (2%), sand and gravel charges (2%) and miscellaneous (9%) (unpublished statistics, Chitwan NP). According to government regulations, the buffer zone receives half the Park's revenue. Thus, in 2007, the local communities in the buffer zone received more funds, adding to their willingness to help in protecting rhinos, mainly by patrolling their forests (P. Kunwar and K. Kunwar, pers. comm. December 2007).

Chitwan National Park's budget for 2006/7

Chitwan NP receives government funding from two sources: the DNPWC and the Army. The Park budget comes from the headquarters in Kathmandu. This does not include Park revenue (of which 50% goes to the central treasury and 50% is channelled back to buffer zone management). For 2006-7 the DNPWC allocated 36,129,872 Nepali rupees (USD 506,021) to Chitwan NP. Of this, USD 253,332 was for the 'official budget', which mostly went to salaries for the 273 employees (144 Park staff and 129 elephant staff who look after the 53 domesticated elephants). Another USD 178,459 went to the 'Elephant Breeding Centre'. A further USD 16,807 was for the 'programme budget', i.e. fire management, waterholes, bridges and house maintenance. The final allocation, USD 57,423, went to 'new post construction' (unpublished statistics, Chitwan NP). The Army budget covers the cost of running one battalion of about 800 men within Chitwan NP. It remained stable from 2006/7 to 2007/08. The annual budget was approximately 72,113,000 Nepali rupees (USD 1,009,986). The largest sum by far (76%) went to salaries (USD 770,308), followed by food (USD 175,070), allowances (USD 49,020) and miscellaneous (USD 15,588). From this budget only USD 2801 was allocated to fuel and USD 700 for all maintenance, but this is insufficient for adequate anti-poaching activities in the Park.

The Park also received funds from non-government sources. It received USD 49,650 from the Terai

Arc Landscape Programme (part of a WWF fund to manage the Terai area), and USD 5,182 from ITNC for payments for the intelligence-gathering network and informers. The funding from NGOs in this period totalled at least USD 54,832.

If we collate the funds from the DNPWC, the Army and the main NGOs going into Chitwan, the total was USD 1,570,839 for 2006/7. This works out at USD 1685 being spent per km² and over one man per km² working in the Park. These figures per km² are high for such a big area but this expenditure is necessary because of the large numbers of local people living around the Park's boundary.

Rhino horn stockpile figures for DNPWC

The DNPWC also looks after a stockpile of rhino horn that originates from rhinos in Chitwan and Bardia, which are stored in a strong room in Chitwan NP (there is no equivalent facility in Bardia NP). Before 1990 all rhino parts, such as the horns, skin and nails, were sent to the King's palace in Kathmandu for storage. In 1990, when the King lost most of his power, the DNPWC started to keep the rhino products collected in the field. In December 2007 there were 159 horns in the storeroom in Chitwan NP, but no total weight had yet been recorded. Careful accountability is needed to keep the DNPWC's new collection safe, especially in times of political unrest. In late 2007 it was not yet known how many additional horns were in the King's palace in Kathmandu.

Bardia National Park

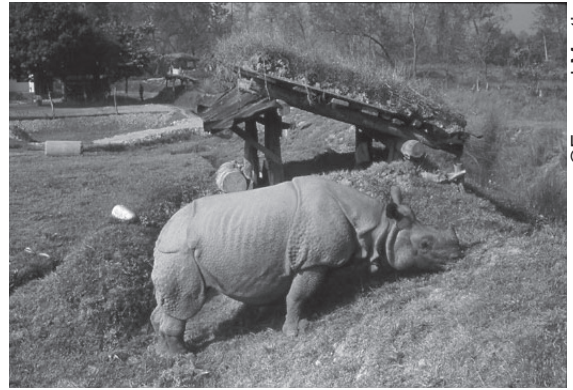
About a 10-hour drive west of Chitwan is Bardia NP, 968 km² of habitat similar to that of Chitwan. Until 1986 there had been no rhinos in Bardia for about a century. Then 83 rhinos were translocated from Chitwan into Bardia NP between 1986 and 2003 (13 in 1986, 25 in 1991, 4 in 1999, 6 plus 10 in 2000, 5 in 2002, and 10 in 2002 and 2003 respectively). The Parks Department carried out its first rhino census in 2000 and counted 67 rhinos in and around Bardia NP (DNPWC 2007a) with 35 in the Babai Valley (DNPWC 2001). This was a healthy increasing population. There were only 10 known rhino poachings between 1986 and 2000 in and around the Park (Martin and Vigne 1995; Martin 2001). The next census was carried out in 2007 and only 30 rhinos were counted, all of them in the Karnali floodplain in the west of the Park. None at all were left in the Babai Valley.

This remote region in the southeast of the Park had been the best location for rhinos, being isolated from people and possessing good grasslands on alluvial soil. Seventy rhinos had been released in this area. It is thus particularly dismaying that virtually all those that stayed in the valley were poached.

From 2001 to 2007 the DNPWC could only confirm 19 poached rhinos (see Table 1) when, in fact, well over 60 must have been poached, bearing in mind that during the last census in 2000, 67 were counted and 35 more were re-introduced soon after that census. What was the reason for this heavy poaching? The main problem was that in 2002 the Royal Nepali Army (as it was still then called) withdrew all of its five posts from the Babai Valley, joining the six or seven Army posts positioned elsewhere in the Park. In 2002 Park staff abandoned their posts in the Babai Valley and, with no protection, the Maoists then moved in; they did not allow officials to re-enter the valley. It was thus a free-for-all for poachers for several years. The Babai Valley was the easiest target for poachers during this period of unrest. Park staff later learned that the rhino poachers had come from outside the buffer zone, but in December 2007 it was not yet clear who the poachers were (Ramesh Thapa, Ranger, Bardia NP, pers. comm. December 2007; Martin 2006).

When did the heaviest poaching occur? During the 2007 census, which involved 85 people with 13 domesticated elephants over 14 days, no rhino carcasses were found in the Babai Valley, and only five poaching incidents were known in 2006 and 2007. The reason for so few carcasses despite so many poached rhinos in the valley was that most of them must have been killed between 2002 and 2004. After such a long time, the remains of the carcasses (once the poachers had taken the valuable products away and predators had consumed the rest) would have deteriorated in the heavy monsoons and been hidden by thick vegetation by the time of the 2007 census.

In the Karnali Floodplain inside the Park, the other main location for rhinos, the Army and Park staff never abandoned their posts; officials say no rhinos were known to have been poached there between 2003 and 2005. In 2006, however, one male was poisoned and one female was shot dead in the floodplain region. In 2007 Park staff found one sub-adult rhino carcass, presumably poached, with the horn and hooves missing, outside the Park in the wildlife corridor between the Park and Katarniaghat Wildlife Sanctuary across the border in India. In December 2007 a 15-day old



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The Army inside Bardia National Park had raised this orphaned rhino in their camp, and also had a leopard cub in December 2007.

rhino was found shot dead in the Janaknagar Buffer Zone west of the Geruwa River, the eastern branch of the Karnali River. The legs, tail, nose and ears were removed (Thapa, pers. comm. December 2007; Anon. 2008). Army patrols were thus not adequate.

After the truce agreement with the Maoists in April 2006, the Army in Bardia NP began to re-establish its posts. There had been only five Army posts remaining, but by December 2007 the Army had 13 with plans to build four more. It is most important for the Army to step up its patrols. One of the returned posts is in the Babai Valley (Lt Col. Sameer Singh, Head of Ransher Battalion, Bardia NP, pers. comm. December 2007). Although no rhinos remained in the Babai Valley, patrollers caught eight wildlife poachers, each with a home-made gun, who were hunting deer and wild boar. For the Park as a whole, officials reduced the number of fish poachers (who commonly had been poisoning and electrocuting fish to catch them easily) and illegal tree cutters. The various authorities arrested 483 people in 2006/7 for illegal entry, tree felling, grass cutting, and illegal fishing inside Bardia NP. They also caught 22 animal poachers (Bardia NP, unpublished statistics). In order to stop the poaching of rhinos and tigers, intelligence funds (that have been available in recent years) were allocated totalling USD 2300 in 2006/7, but this is still too little. Some say it is only 10% of what is needed (Thapa, pers. comm. December 2007).

With the improvement in law and order, the main problem facing Park management by late 2007 was human-wildlife conflict that was increasing, especially regarding the growing elephant population (Fanindra Kharel, Bardia's Chief Park Warden, pers. comm. De-



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Suklaphanta Wildlife Reserve had five rhinos in December 2007 and is rarely visited by tourists as it is in the remote part of western Nepal.

December 2007). In the early 1990s only about two wild elephants resided in the Park, but by 2006 there were at least 80, most having wandered in from India. From 2000 to 2006 there were 1272 recorded cases of elephant damage in the buffer zone around Bardia NP (Anon.2007d). Elephants killed 12 people and damaged 500 houses in the year 2006/7 (Thapa, pers. comm. December 2007). There is also evidence of livestock depredation from the few remaining tigers. Compensation is paid for human death, but this was only USD 346 in 2005, and no funds are available for house or crop damage. The elephants are now doing a huge amount of damage (DNPWC 2007b). Park staff is trying to reduce human-wildlife conflict, which sometimes includes damage from rhinos. A rhino killed a person in the buffer zone in January 2006. In 2007 Park staff, with NGO assistance, constructed an electric fence and watch towers on the western side of the Park. Although the situation has improved, the fence should be better maintained and the watch towers more utilized. The people are still suffering in the buffer zone and beyond which has made them less tolerant of wild animals and perhaps more sympathetic to the activities of rhino poachers, although up to December 2007 no elephant had been killed. Most of the human-wildlife conflict is in the Karnali Floodplain area, which has the highest concentration of villages.

Again, due to the growing political stability in Nepal, Bardia NP received more tourist revenue in 2006/7 than in recent years. In the fiscal year 2005/06 there were 1384 tourists and by 2006/7 there were 3637. The number of beds in the 15 tented camps and lodges that were open around the Park was 210 in December 2005 reaching 279 in December 2007. Of these beds, the occupancy rate was 8.5% in December 2005 rising to 13%

in December 2007 for a single day. As with Chitwan, Bardia's buffer zone is supposed to receive 50% of the tourist revenue earned by the Park. In 2006/7 the Park received much more revenue than in recent years, but due to bureaucracy, as of December 2007, the Ministry of Forests and Soil Conservation had still not released these funds to the buffer zone communities for 2005/06 or 2006/7. The Buffer Zone Management Committee was extremely concerned about the delay of funds which are used for conservation projects to benefit rhinos and educational projects to improve local people's awareness of the importance of protecting Bardia's wildlife, especially rhinos and tigers that are important to them for tourism (Nilkantha Kandel, Programme Officer, Buffer Zone Management Committee, Bardia NP, pers. comm. December 2007). There has been, however, a growth in rhino conservation activities through the UK-funded Darwin Initiative of ZSL (Richard Kock, Zoological Society of London, pers. comm. 2008).

Suklaphanta Wildlife Reserve

This Reserve, an area of 305 km², is reached by road on a journey northwest of Bardia that now takes only about five hours because the India and Nepal governments have recently built bridges over the many rivers. As well as savannah and forests it consists of huge open grasslands that are famous for their 2,500 swamp deer. There were perhaps a handful of rhinos in the 20th century but by 2000 only one remained. The DNPWC translocated one male and three females in 2000 from Chitwan NP to Suklaphanta WR and by 2005 they numbered seven.

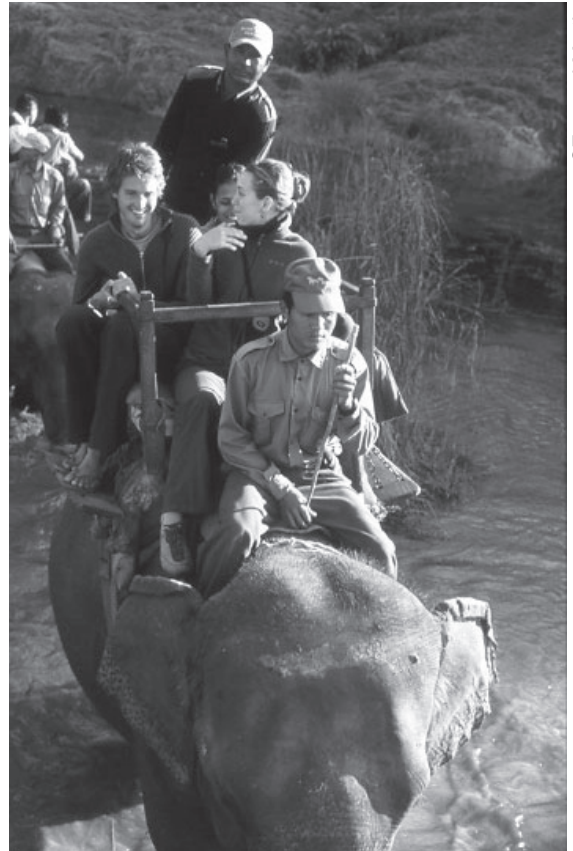
In 2000, however, Maoist activities worsened in the area, forcing the Army to consolidate from nine posts into three. The Reserve staff also had to merge some of their 14 posts. From 2001 to 2004 Maoists destroyed most of the vacant posts. Poaching gangs became a severe problem. Most poachers were (and still are) from the buffer zone around the Reserve or from India, which is on the Reserve's southwestern border (Nilambar Mishra, Assistant Warden, Suklaphanta WR, pers. comm. December 2007; Sakya and Chitrakar 2006). In 2005 authorities killed three Indian poachers in the Reserve. Indian and Nepalese poachers are still a problem, coming mainly for spotted deer, wild boar, swamp deer, fish, wood and to graze cattle illegally. While the Nepalese use poisons, guns, dogs, snares and traps to kill wildlife, the Indians hunt usually with guns only. The frequent poachers entering the Park, especially during the Maoist disturbances, were

a great threat to the newly re-introduced rhinos. However, no rhinos were recorded as poached between 2000 and 2006. One died of natural causes in 2006, however, and Park staff recovered the horn.

With the country in relative peace by 2007, Army and Reserve staff were able to increase their patrol work. In December 2007 Reserve staff found a rhino carcass that had been killed by poachers who had removed its horn, some skin, hooves, bones and meat. When officials found the remains of the carcass, it was probably three weeks old. Reserve staff soon arrested four men in the buffer zone who admitted they had sold the horn, but said they had not killed the rhino.

The Reserve earns little money, as the number of tourists has always been small. This is due to its isolated location in the extreme west of the country, poor access roads in the past, inferior hotels and lack of advertising. Tourist numbers fell even lower during the Maoist insurgency to 39 in 2005/06. By 2006/7, the numbers rose to 308 due to the peace accord. Other revenue comes from timber sales, the buffer zone community forests and fines collected as penalties for illegal activities in the Reserve.

Reserve staff does not have an adequate budget to manage the Reserve as well as they would wish. Although the number of Army posts occupied had increased to five by the end of 2007, the Army was not patrolling as well as it should have been. The posts manned by Reserve staff had increased to eight, but they need to reach their previous number of 14. The number of Reserve staff (72) is too low because the Reserve personnel must also patrol in parts of the buffer zone. They do not have enough vehicles or domesticated elephants (six only) and their communications equipment is inadequate. The buffer zone communities complain that they do not receive enough compensation for human-wildlife conflict deaths and injuries. As there is also a reasonable amount of crop damage caused by elephants, spotted deer and wild boar, some people are uncooperative with the Reserve staff or tolerant of the poachers, even colluding with them (Mishra and Chiranjibi Pokhera, Suklaphanta Conservation Programme, NTNC, pers. comm. December 2007). In December 2007, with improving law and order, staff were ready to upgrade the Reserve's management. It was especially necessary for them to be more aware of the rhinos' location and movements in order to watch over their security. They unfortunately still feel that they have poor communications with the central government, being so far away.



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During the collapse of Nepal's tourism due to the Maoist insurgency, domesticated elephants that are used for wildlife viewing had little work and some had to be sold.

Recommendations

- One short-term measure needed to reduce rhino poaching is to re-establish more and well-managed Army and DNPWC posts in Nepal's three rhino areas. Until Maoist attacks became a serious problem, the number of posts was adequate, and this number, therefore, should be established once more. Patrol work needs to be intensified at all posts. All patrols need to be intensified, especially for the Army who carry firearms.
- Later, perhaps, a professional Army anti-poaching unit could be established with highly trained and well-equipped sections and new identifiable uniforms. Such personnel would be more trusted by the community and able to work in all areas in and around the parks (Richard Kock, ZSL, pers. comm. 2008).
- As there is a continuous movement of rhinos wandering out of the parks to graze on crops causing

- upset to the villagers and exposing the rhinos a far greater risk of being poached, techniques that are known to work elsewhere in Asia must be established to keep rhinos, whenever possible, in the parks. Examples are growing non-palatable crops near park boundaries rather than rice, while at the same time improving the vegetation in the parks by clearing toxic invasive species, and securing the boundaries by increasing and maintaining electric fences and watch towers where possible.
- The Army and Park staff need to adapt their anti-poaching strategies every two years as otherwise poachers grow accustomed to them.
 - Long-term vacancies among senior Army positions must be avoided, such as one that occurred recently inside Bardia NP.
 - The Army needs to keep its vehicles well maintained and operational.
 - More patrol work is needed in the buffer zones where rhinos have a much greater chance of being poached. Only the Forest Department has the jurisdiction for this, but the Parks Department and Army should be much more involved. The Army is especially important in combating poachers and traders as only they carry firearms. This presently happens only on rare occasions with special permission. Their entry into the buffer zones happens only rarely.
 - In the short term, small targeted sums of money under strict control and largely restricted to equipment, staff housing and vehicle support are needed. In the long term, perhaps the DNPWC could set up a strictly controlled international trust fund to raise money for refurbishing Chitwan NP, Bardia NP and Suklaphanta WR. This fund could also be used for future emergencies.
 - The key to stopping rhino poaching in Nepal is a good intelligence gathering system, but this requires sufficient and constant funding to pay salaried and ad hoc informers in order to combat both poachers and traders. Funds were reduced during the political unrest, but by December 2007 the Parks Department staff had still not received enough funds.
 - More of the grievances of the local people in the buffer zones need to be attended to by the government, particularly regarding adequate compensation for human deaths and injuries. This would also make it easier for the buffer zone management committees to allow Army personnel easier access to the buffer zones.
 - An NGO could set up a second international trust fund to pay for wildlife damage caused by rhinos, tigers and elephants to property and crops near protected areas while making sure that the claims are legitimate.
 - It is important that finances from the government, NGOs and private sources meant for user groups in buffer zones reach the poorer people rather than unfairly going to the higher caste Hindu groups (Martin 2006).
 - The buffer zone management committees need to implement better policies to reduce the growing destruction of their environment, mainly excess tree cutting and cattle grazing, by providing more money to develop other livelihoods.
 - Tracker dogs should be introduced to catch poachers in the protected areas and buffer zones. The training and management of dogs can be learned from Kenya where they are used successfully to catch rhino poachers (Richard Kock, pers. comm. 2008).
 - In Kathmandu, where the main traders of rhino horn and other endangered wildlife products are based, more effort is needed to catch these individuals. A special intelligence unit concentrating specifically on wildlife crimes is needed either in the Forest Department or Police Force. It is not clear at the moment who should take the initiative in stopping the illegal trade in Kathmandu, and jurisdiction thus needs to be clarified.
 - It may be important to consider building a fenced-in rhino sanctuary within Bardia NP and Suklaphanta WR run by DNPWC and some NGOs until rhino numbers are re-established. In this way, officials could merge the unsafe or dwindling rhino populations into a small area where manpower can be concentrated to look after the rhinos more efficiently like the population in the Dudhwa Rhino Sanctuary in India.
 - It may also be appropriate to look into the possibility of encouraging wealthy people committed to saving rhinos to obtain land in the buffer zones in the Terai on long lease to help manage rhinos that frequently wander out of the protected areas and would otherwise be killed as long as insecurity in these zones continues. This would be in the interest of both rhino conservation and local communities

who would benefit from employment. If tourist lodges were set up, revenue from the sanctuary entrance fees and lodges could be made available for the buffer zone communities. These privately operated sanctuaries could provide additional support to rhino conservation, especially needed in case of future political unrest during which the government parks and reserves would struggle to protect rhinos, especially those outside the parks. The private sector can emulate other well-run privately managed rhino sanctuaries. This would bring Nepal favourable publicity, as it would be the first example of such an initiative in Asia and it would attract international conservation support.

Conclusion

The above strategies should be implemented in Nepal soon. The rhinos that wander out of the protected areas are particularly vulnerable and frequently poached so they require special attention. Extra protection for these endangered rhinos is needed if we are to counteract any future threats from political disturbances in the country.

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Postscript

In a census carried out in March 2008 there were 408 rhinos counted in and around Chitwan National Park. An estimate was made of Bardia National Park's rhinos in mid-2008 of 21. The number for Suklaphanta Wildlife Reserve remained six for mid-2008.