

# MANAGEMENT

## Enhanced community support reduces rhino poaching in Nepal

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### Abstract

Rhino poaching in Nepal declined in 2008 and 2009 in contrast to the previous seven years. Among the primary reasons for this decrease were the improved law and order throughout the country and better anti-poaching efforts. NGOs allocated more resources to local communities living around Bardia and Chitwan National Parks, and an increase in tourism meant that the Parks' Buffer Zone Management Committees received more money and assistance from the Department of National Parks and Wildlife Conservation (DNPWC). Lower caste people who understand the needs of the poorest were elected to senior positions on the Management Committees and User Groups in the Buffer Zones. In turn, these developments encouraged the mostly poor people of the local communities to support more fully rhino protection. Improved co-operation amongst the NGOs, DNPWC, the Army and local communities helped reduce rhino poaching in 2008 and 2009.

**Key words:** buffer zone, rhinos, Nepal, Chitwan, Bardia, rhino poaching, community development

### Résumé

Le braconnage de rhinocéros au Népal a diminué en 2008 et en 2009 contrairement aux sept années précédentes. Parmi les raisons principales de cette diminution figuraient une situation sécuritaire améliorée dans tout le pays et de meilleurs efforts anti-braconnage. Les ONG ont alloué plus de ressources aux communautés locales vivant à proximité des parcs nationaux de Bardia et de Chitwan, et une augmentation du tourisme voulait dire que les comités de gestion des zones tampon des parcs ont reçu plus d'argent et d'aide du Département des Parcs Nationaux et de la Conservation de la Faune (DNPWC). Des représentants des castes plus basses qui comprennent les besoins des pauvres ont été élus aux positions de responsabilité dans les Comités de Gestion et dans les Groupes des usagers des zones tampon. Par conséquent, ces développements ont encouragé les membres des communautés locales, qui sont pour la plupart pauvres, à mieux appuyer la protection des rhinocéros. Une meilleure coopération entre les ONG, le DNPWC, l'armée et les communautés locales a facilité la réduction du braconnage de rhinocéros en 2008 et en 2009.

## Introduction

The Buffer Zone concept was promulgated in Nepal in 1993 for certain protected areas in order to encourage the local communities to be more reliant on economic activities within such a zone rather than illegally exploiting the resources inside the parks. The second purpose was to make the communities more aware of wildlife conservation since it is in their best economic interests to reduce poaching of rhinos and tigers, large animals that make tourism profitable. The Buffer Zones were to be funded from 30–50% of the revenue raised in the protected areas, later confirmed at 50%. This new, exciting concept was set up in Chitwan National Park (NP) in 1996 (DNPWC and WWF Nepal 1996), but did not really get going until around 1999. For Bardia National Park (NP) the concept was also set up in 1996 (DNPWC 1996).

In the initial years after the implementation of the Buffer Zone concept, it was not effective in protecting the rhino as the poorest people received too few benefits (Adhikari 2005). From 2001 to 2006 at least 120 rhinos were poached in and around Chitwan NP, and in Bardia NP's Babai Valley the entire rhino population was eliminated by poachers with Bardia's total rhino number declining from 67 to 30 during this time (Martin et al. 2009). There were other reasons for the serious rhino poaching, including a breakdown in law and order throughout Nepal, but the local communities were not particularly helpful in preventing poachers and traders from moving in and out of the Buffer Zone areas contiguous to the two Parks. Several researchers who studied the situation, including Mark Murphy, Krishna Oli and Steve Gorzula (2005) concurred with our belief (Martin et al. 2009) that the Buffer Zone concept had not at the time changed the behaviour of the local communities towards enhancing conservation of wildlife. Even officials, such as the Chairman of the Buffer Zone Management Committee at Chitwan NP admitted in 2008 that the local communities had not received the conservation messages, and the marginalized and vulnerable groups within the Buffer Zone generally had been excluded from decision-making on conservation issues (Bhurtel 2008).

Fortunately, the Buffer Zone concept relevant to wildlife conservation was implemented more successfully in 2008 and 2009, the period covered in this paper. This improved community concern for protecting rhinos has greatly helped to reduce poaching.



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Figure 1. The greater one-horned rhino carries a horn worth thousands of dollars on the black market in East Asia.

## Methodology

We carried out fieldwork in Nepal from 2 to 23 January 2010. We concentrated on interviewing people directly involved with the local communities around Chitwan and Bardia NPs, especially as the senior officers of the Buffer Zone Management Committees and officials of the Buffer Zone User Committees share their views on wildlife conservation. We did not visit Suklaphanta Wildlife Reserve because there are so few rhinos left, probably only six. We talked with the Chief Wardens of Chitwan and Bardia NPs, who are directly involved with the projects that are carried out in the Buffer Zones. We had meetings with the National Trust for Nature Conservation (NTNC), the Zoological Society of London (ZSL) and WWF Nepal—NGOs that have expanded their activities with the communities around the two Parks. Other people who were contacted included the officers in charge of the Nepal Army inside the Parks, assistant wardens of DNPWC, Forest Department staff, individuals in the tourist industry, and researchers.

All undated interviews referred to in this manuscript were carried out during fieldwork in January 2010.

## Results

### *Rhino poaching in Nepal in 2008 and 2009*

#### **Chitwan National Park**

In 2008 there were about 400 rhinos in and around Chitwan NP of which 7 rhinos were shot. All except

one were killed inside the Park. The authorities retrieved only one horn. In 2009 10 rhinos were poached, 7 inside the Park and 3 in the Buffer Zone; officials retrieved three horns. Poachers wounded two rhinos in July/August 2009, around the tourist area of Sauraha, but due to the quick response from the Park staff, the poachers did not have time to remove the horns from the injured animals. Later these injured rhinos died from their bullet wounds (Narendra Pradhan, Chief Park Warden, and Madhav Khadka, ranger, Chitwan NP, pers. comm.). Official figures of 17 rhinos poached in 2008 and 2009 are considerably lower than those from the previous seven years when the official average number killed per year was just over 17 (Martin et al. 2009).

Poachers and middlemen who had been arrested in 2008 and 2009 gave information on prices. There was one exceptionally high price, when in the latter part of 2009 a gang of about seven poachers killed a rhino with a .303 rifle. The gang removed the 1-kg horn and sold it to a trader in Kathmandu supposedly for 1,400,000 Nepalese rupees (USD 19,178). A possible explanation for the high price is that the trader based in Kathmandu reportedly desperately needed rhino horns immediately and put out the word that he would offer a very high price; this was probably a one-off transaction that was negotiated directly with the poachers and not through a middleman (Diwaka Chapagain, Manager of the Wildlife Trade Program for WWF Nepal, pers. comm., and Ram Prit Yadav, Terai Arc Landscape Program, WWF Nepal, pers. comm.). This horn may have gone to the town of Darchula in north-west Nepal on the Nepal-India-Tibet border where two seizures of horns were made earlier in 2009. Those horns were to be sent to China (Chapagain, Pradhan and Khadka, pers. comm.).

### **Bardia National Park**

There were only two rhinos known to have been poached in Bardia NP in 2008 and none in 2009, mainly because some Army and ex-Army people who had been directly involved in the poaching and selling of horn were arrested in 2008 (Kock et al. 2009). In early 2008 the two rhinos were shot dead. One was inside the Park and the other was in the Buffer Zone. The one inside was shot by a gang of Soncha tribal people, who are traditional fishermen and gold panners; they rarely own land and are very poor. A Kathmandu trader, originally from the mountains,



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Figure 2. Rhinos in Nepal prefer the grassy swamp areas and are less frequently seen feeding in the forests.

but not a Tibetan, came to a village called Manu west of the Karnali River. He approached a Tharu tribal leader who organized a gang of four Sonchas to kill the rhino. A businessman from Kathmandu paid NPR 200,000 (USD 3091) to the poachers for the horn. This payment was split evenly amongst the four gang members. The Park authorities arrested two members of the gang and the trader, and they were put into jail (Ramesh Thapa, assistant warden, Bardia NP, pers. comm.). The rhino killed in the Buffer Zone was shot by a gang of six people. A woman of Tibetan origin, resident in the town of Nepalgunj, purchased the horn for NPR 900,000 (USD 12,329) on behalf of a trader who may have been an ethnic Lama. She took the horn to him in Kathmandu but received only NPR 10,000 (USD 155) as commission. She was later arrested, as were some of the poachers, but the trader was not caught (Ramesh Thapa, pers. comm.). At the end of 2009 only 22 rhinos were counted in the Park, all inhabiting the Karnali River floodplain in the west (Ramesh Thapa, pers. comm.).

### **Increased security in Nepal**

The signing of the Peace Accord in 2006 ended a 10-year civil war. Subsequently, fighting in the countryside decreased and security greatly improved in Nepal. Consequently, the Nepalese Army resident in Chitwan NP was able to re-occupy more former Army posts. In 2001 the Army had manned 32 posts, but by 2006 only 7 were garrisoned. By mid-2007 the Army had moved back into a total of 22 (Martin et al. 2009), and by the end of 2009 32 were once again fully functional. In

addition, in mid-2008 a company of troops was added to the battalion in the Park, which improved the frequency and effectiveness of anti-poaching activities.

In Bardia NP the Nepal Army occupied only seven posts in 2004, but by December 2007 six more were re-established (Martin and Martin 2006, Martin et al. 2009). By the end of 2009, Nepal Army personnel occupied 19 posts. During the insurgency the Army could not move around the Babai Valley as it was diverted to counter insurgency operations. By 2008 Army personnel spent most of their time carrying out anti-poaching activities once more.

### *The buffer zone communities*

In late 2005 we studied the conservation efforts carried out by communities living in the Buffer Zones of Chitwan and Bardia NPs and concluded that they were not particularly effective. This was due to a decline in the money paid into the Buffer Zones as a result in the drop in tourist numbers, and the fact that the Buffer Zone Management Committees received this money automatically whether they adequately protected rhinos or not. Also the communities within the Buffer Zones had not been well informed on how to deal with conservation issues nor motivated to implement a successful anti-poaching strategy. These problems continued in 2006 and 2007. One reason was that the Buffer Zone Management Committees and the many User Groups were dominated by the relatively well-educated Hindu elite who took advantage of the vast majority of the poor, landless people. The Madheshis, who are of Terai origin and live around Chitwan and Bardia NPs, are extremely poor and have little formal education. In 1999 the average Madheshi had completed only 1.7 years of schooling compared with 4.6 for the elite Brahmins. Although the Madheshis made up 28% of Nepal's population, they held only 3% of the positions in the judiciary and 7% in the education sector, contrasting to 81% and 77% of the higher caste Hindu Bahuns/Chhetris (Pradhan and Shrestha 2005).

### **Chitwan National Park**

For the 750km<sup>2</sup> Buffer Zone around Chitwan NP, home to approximately 300,000 people, there is one Buffer Zone Management Committee, 21 User Committees and 1,700 User Groups that are involved in deciding how the money earned by the Park will be allocated and spent by the local communities in

the Buffer Zone. In a 2009 election, a Dalit (a person of the lowest Hindu caste) became the Chairman of the Buffer Zone Management Committee, the first time a Dalit had become a Chairman. More democratization occurred with a greater variety of members in the User Committees. For example, in 2009, of the 13 members of the Mrigakunja User Committee (9 elected and 4 appointed) 4 were women, which was rare in the past. There were six Brahmins, six Tharus and one Dalit. These people gave greater attention to the needs of the poor (Buddhiman Bishow Karma, secretary and Basudev Chapagain, Chairman, Mrigakunja User Committee, pers. comm.).

The Buffer Zone Management Committee for Chitwan allocates 30% for conservation projects to protect wildlife, 30% for building schools and roads, 20% for income-generating projects such as poultry and pig farming, handicrafts, and tailoring enterprises, 10% for administration and 10% for education. The conservation and education expenditures are particularly relevant to rhinos.

Along with a fair distribution of Park funds to the communities, which gave local people greater incentives for wildlife conservation, there was more money from the Park for the local people in the Buffer Zone due to an increase in tourism. Park revenue rose from NPR 30,831,199 (USD 398,885) in the financial year 2002/3 to NPR 58,793,101 (USD 871,655) in 2007/8 (DNPWC 2004, DNPWC 2008) with tourist numbers rising from 57,033 in 2005 to 113,486 in 2008 (DNPWC 2006, DNPWC 2009). Half of this Park revenue was allocated to the Buffer Zone.

The money allocated for education is often spent on projects to instruct the communities about the



Figure 3. Esmond Martin meets some members of the Mrigakunja User Committee at their office near Chitwan National Park.

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importance of protecting wildlife, especially rhinos. One strong argument is that if rhinos and other endangered animals are poached, then fewer tourists will visit the Park, reducing Park revenue for the Buffer Zone. Community instructors visit schools to teach the youth the importance of conservation and also to recruit youth into anti-poaching units for patrolling the Buffer Zone. Eco-clubs are also encouraged in the schools.

The Buffer Zone User Committees and User Groups spend more money on conservation projects compared to educational ones, although the latter are probably equally important for rhino conservation. In 2008 and 2009, the major conservation projects included erecting fences to protect crops from wild animals that stray out of Chitwan NP and improving the management of grasslands for rhinos. Other projects support the youths who voluntarily patrol in the Buffer Zone to arrest poachers and to report illegal weapons.

In 2008 and 2009 with security in the country improved (although there were still occasional outbreaks of violence and strikes in the Terai), with more democratically-managed Buffer Zone committees and with more funds productively spent by these committees, the NGOs increased their assistance for the Buffer Zone. The NGOs decided that with these improved conditions their financial and technical input would be more effective and in some of their projects went into partnership with the Buffer Zone committees.

One of the largest Nepalese NGOs, NTNC, increased its support in the Buffer Zone by improving the people's livelihoods, safeguarding people and crops from wild animals, and by helping to protect rhinos that wander into the Buffer Zone. NTNC plays an important role in funding informants in the Buffer Zone to help catch rhino poachers and traders. This has become more effective since the decline in violence, as it is now easier for informers to move around. NTNC set up a fund in 2005 and 2006 of NPR 5,000,000 (then worth USD 69,444), the interest on which is used to pay informers, to patrol outside the Park boundary and to help maintain anti-poaching vehicles. NTNC has also put considerable effort into educating the community on the importance of wildlife to their future well-being. Members of NTNC have encouraged those people living close to the Park boundary to plant crops unpalatable to rhinos and other wildlife—such as mint, citronella and camomile—as a deterrent to the farmers' fields



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Figure 4. Some of the less poor families around Chitwan National Park live in houses such as this, growing crops and raising livestock.

(Ganga Jang Thapa, executive director, and Naresh Subedi, research officer, NTNC, pers. comm.).

NTNC, along with assistance from the Darwin Initiative (British government aid), ZSL and the Parks' staff have erected fences to deter wild animals from going into farmers' fields. For example, a solar-powered electric fence was built on the eastern side of the Park in 2008 to reduce human-wildlife conflict. NTNC has also been encouraging local communities not to over-exploit the natural resources of the forest by encouraging other forms of economic activity and paying the start-up costs. These include supporting alternative energy sources such as biogas plants and supplying tree seedlings.

NTNC, with assistance from the Darwin Initiative, ZSL and the Park, has recently set up a monitoring system for the rhinos. The plan is to photograph every rhino in the Park, and give each a name or a number, similar to the scheme set up by Richard Kock and Raj Amin of ZSL in Kenya. By the end of December 2009, more than 100 rhinos had been photographed, starting with the low rhino density areas in Chitwan. Ten NTNC staff have been employed to do this work, while also protecting the rhinos, finding rhino carcasses, tracking and apprehending poachers. NTNC staff have GPS devices, binoculars and cameras which, along with training, have improved staff morale (Subedi, pers. comm. and Anon. 2008 and 2010). More rhinos need to be individually recognized and monitored in order to reduce poaching significantly. Military presence alone will not eliminate poaching.

Another major NGO, WWF Nepal, has also

expanded its activities in the Buffer Zone. In 2009 WWF Nepal donated NPR 4-5 million (USD 52,300–65,400) to the communities as part of the large WWF programme called the Terai Arc Landscape (TAL) which in Nepal covers 49,500 km<sup>2</sup> (Ajaya Kumar Jha, finance and administrative officer, TAL, WWF Nepal, pers. comm.). WWF Nepal works with the communities in the Buffer Zone to reduce human-wildlife conflict and aids income-generating projects such as goat keeping, pig farming and biogas plants. They also support eco clubs at schools and carry out awareness programmes on the importance of conservation to protect the rhino. WWF Nepal spent NPR 800,000 (USD 12,365) in 2009 for informers and for intelligence gathering on potential poachers and wildlife traders (Jha pers. comm.).

WWF Nepal under the TAL programme supports a rhino conservation co-ordinator based in the town of Sauraha, just to the north of the Park, Ram Prit Yadav, who was formerly Chief Warden of Chitwan NP. He spends a lot of time with the local communities imploring them to protect rhinos, explaining that rhinos can help local people earn a lot of money. He reminds them that if any of them are caught poaching rhinos the penalty is up to 15 years imprisonment and/or a fine of NPR 100,000 (USD 1,370). In addition, he coaches the 150 guards recruited from the Buffer Zone, who patrol on a daily basis the community forests and who collect information on poachers. These laymen are paid a small amount (NPR 700–2000 or USD 10–27 a month) by the community, but they are very effective (Yadav pers. comm.). In 2008 WWF Nepal helped to set up 12 tiger/rhino conservation committees that co-ordinate these guards' activities (Jha pers. comm.).

The Park staff members also have improved relations with the communities in the Buffer Zone. An assistant warden based at Chitwan NP headquarters at Kasara oversees the management and co-ordination of the Buffer Zone activities for DNPWC. The Park helps support the management of the Buffer Zone User Groups by employing staff, including a sub-engineer to estimate the cost of development works. Another assistant warden based at Sauraha, who organizes patrolling inside the Park, also works closely with the communities in conservation awareness and community development projects.

One problem that still needs to be resolved is that of hand-outs. There has been a tendency amongst



Figure 5. NGOs have helped to finance water projects around Chitwan National Park, amongst other community development projects, while also encouraging local support for wildlife conservation.

Park and NGO staff to give the communities hand-outs without enough accountability for conservation action. Some are now realizing that a more organized approach to conservation and development as opposed to revenue hand-outs would improve co-operation and success further (Richard Kock, pers. comm. August 2010).

### **Bardia National Park**

Although Bardia NP is slightly larger at 968 km<sup>2</sup> than Chitwan NP, the Buffer Zone is much smaller: 328km<sup>2</sup> with 120,000 inhabitants. There is one Buffer Zone Management Committee, but 15 User Committees and at least 226 User Groups that are involved in deciding how the money is allocated. Tourism declined sharply during the Maoist insurgency, reaching a low of 1173 visitors in the 2004/5 financial year, resulting in the Buffer Zone receiving very little money from the Park's income. In the 2007/8 financial year, the number of tourists increased to 4476, and the Park's income rose to NPR 4,012,763 (USD 59,492) with half of that amount earmarked for the communities living in the Buffer Zone (DNPWC 2008). The amount of money paid by the Park to the Buffer Zone around Bardia NP was less than 1/14 of the amount received by the Buffer Zone around Chitwan NP. Thus the contributions made by the NGOs to Bardia's Buffer Zone User Groups were especially important for rhino conservation.

NTNC has recently given greater assistance to Buffer Zone communities in order to ensure

that the rhinos remain safe and thus continue to attract tourists to the Park. A rhino identification system was started in June 2008, with financial support from the Darwin Initiative and technical assistance from ZSL, to monitor the rhinos and curtail poaching attempts. By late December 2009, 19 of the 22 rhinos were individually photographed and recorded, and 17 of them were regularly seen on elephant-back patrols. From May 2008 to at least early 2010 no rhino poaching took place. The scientists working for the Darwin Initiative in Nepal credit this decline in poaching, 'largely through engagement of the communities surrounding the Park and by their active role in anti-poaching' (Kock et al. 2010). The Darwin Initiative has helped fund NTNC to put a lot of effort into community education: 45 to 50 schools were regularly visited, emphasizing to the students the importance of wildlife conservation. Eco clubs were also supported. The Trust employed 17 people in 2009 (up from 15 in 2008) in the Bardia area to implement projects in the Buffer Zones in the fields of natural resources conservation, human-wildlife mitigation, health services, forest development and capacity building. (Rabin Kaday, conservation education officer, Manish Raj Pandey, officer in charge, Bardia Conservation Programme, NTNC, pers. comm.). There is also a positive response from the mentha processing plants put in place by the Darwin Initiative (Kock pers. comm. August 2010).

WWF Nepal is increasing its help to the User Committees in the Buffer Zone. Support is given to 104 youth volunteers who have been assembled by the User Group Committees since 2008 to gather information and patrol the outskirts of the Park, especially in the Karnali River area. According to the Chairman of the Buffer Zone Management Committee, the biggest problem facing the poor communities living close to the Park is human-wildlife conflict (Davi Prasad Devkota, chairman, Bardia Buffer Zone Management Committee, pers. comm.). In response, WWF Nepal has contributed to the construction of 34 km of electric fencing on the western bank of the Karnali River to prevent large mammals from leaving the Park. Consequently, since 2007, human-wildlife conflict has been reduced (Devkota, R. Thapa, pers. comm.). In addition, WWF Nepal provides relief money for people injured by wild animals. The Fund also helps to motivate the

local community by implementing rhino conservation education projects and by supporting new forms of income, such as furniture-making and the extraction of oils from plants to sell commercially.

All this assistance from NGOs to the User Committees in 2008 and 2009 has improved the communities' attitude towards wildlife. The Bardia Buffer Zone User Committees have become more democratic. For example, in 2009, after a recent election, women made up 42% of the Executive Committee members of the User Committees. The Brahmins and Chhetris and other high caste Hindus comprised 48% of the total Executive Committee members whilst the local tribal peoples (especially the Tharu) made up 42% and the Dalits 11% of the membership, which signals a major change from earlier years. This democratization of decision-making has ensured that more of the contributions made by NGOs and the Park have gone to the poor, marginalized peoples in the local communities (Shyam Thapa, Community Improvement Officer, Western Terai Landscape Complex Project, WWF pers. comm.). Democratization has also increased transparency and the ability of the poor people to voice their opinions on projects undertaken by the Buffer Zone User Groups.

## Discussion

The official decrease in the number of rhinos poached in Nepal in 2008 and 2009 compared to the number killed between 2000 and 2007 can be attributed to five main factors: improved security in the country, a system set up by the Darwin Initiative to monitor rhinos, more efficient use of informers, increased support for projects in Chitwan and Bardia NPs' Buffer Zones by the NGOs and DNPWC, and greater commitment by local communities to protecting rhinos. These factors are interlinked. For instance, the decline in violence associated with the Maoists has allowed the Army stationed inside the Parks to spend more time protecting rhinos rather than dealing with the Maoist insurgency. Greater security has resulted in more tourists visiting the Parks, which brings in more money for the communities. This in turn has encouraged local people to put a higher priority on wildlife conservation. Leadership is equally important. The Buffer Zone User Groups' decision-making process about how to use their revenue has become more democratic and the relationships between the Parks' senior staff and the Buffer Zone Management Committees have become stronger. Furthermore,

improved law and order in the Terai region has allowed the Buffer Zone volunteer anti-poaching units to become more effective. It has also encouraged the NGOs to put more resources into the Buffer Zones as there are now greater chances of success. Most notable has been the Darwin Initiative (with GBP 300,000 invested from 2007 to 2010, including ZSL support) for scientific patrol-based monitoring, transparent monthly reporting and annual status reporting of rhinos; community education; problem animal work including fencing; strategically planting non-palatable crops and starting mentha processing; and initiating new APU systems involving over 100 community-based anti-poaching volunteers. These activities have brought with them pride and motivation amongst the people. All the factors responsible for improving rhino protection are directly related to general improved communication and co-operation among the work of the NGOs, Army, Parks Department, tour operators and the Buffer Zone User Groups. In order for the communities living around the two Parks to improve their motivation and effectiveness, conservation endeavours such co-operation and transparency, along with funding, must continue.

At present, tourist revenue earned from Chitwan NP is a major source of external funding for its Buffer Zone. The Park possesses many attributes for successful international tourism. There is an airport nearby or it takes five hours to get there by car from Kathmandu. There are a variety of places for tourists to stay, ranging in price from USD 10 to several hundred a night per person, and many activities for the visitors. On the other hand, there is far less tourist revenue for Bardia NP because fewer tourists choose to travel that far west, which requires about 12 hours to drive from Kathmandu or 15 hours by bus, or an expensive round trip air ticket of USD 290 for foreigners, plus a 2-3 hour drive from the airport in Nepalgunj to the Park. In December 2009, the Bardia area had only 15 functioning small lodges and tented camps (with just 318 beds in total) compared to more than 60 in the Chitwan area; most of the accommodation around Bardia NP is very basic with prices as low as USD 3 a night per person without food. Bardia NP suffers from poor tourist promotion, unannounced strikes in the region rendering transport unreliable, continued worry that the area is still unsafe, and a shortage of electricity that is also often erratic. The local tourist association, called the Eco-tourism Development

Forum, attempts to improve the situation, but the Forum has very little financial resources and its lack of technical knowledge renders it largely ineffective.

## **Conclusion**

Prospects for rhinos in Nepal are dependent firstly upon security in the country. Daily vigilance of rhinos with transparent reporting is essential so that everyone knows the status of the remaining population and any losses are rapidly reported. This ensures pride, hope and commitment amongst the people and deters senior staff from hiding the truth. Zero poaching in Bardia must be congratulated and such an aim for Chitwan could be achieved using similar monitoring techniques and co-operation amongst all the stakeholders. Close, effective co-operation and transparency amongst the DNPWC, NGOs, Army and the Buffer Zone Management Committees are essential. It is imperative that the communities living around Chitwan and Bardia NPs continue to receive significant benefits, for which they are accountable from the DNPWC and NGOs to sustain their motivation and efforts towards protecting rhinos. In 2008 and 2009 the Buffer Zone Management Committees and the poor people they represented received more benefits to put greater efforts into wildlife conservation than in earlier years, especially around Bardia NP, resulting in a significant decline in the number of rhinos illegally killed in Nepal. However, if close co-operation and transparency amongst the stakeholders does not continue and the competency of the anti-poaching activities in and around the two Parks falters, then rhino poaching will increase due to the high value of the horns in the East Asian markets.

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