

Report on the Monitoring Mission to the Royal Chitwan National Park and World Heritage Site, Nepal

From 16 to 20 December 2002

IUCN
The World Conservation Union

Asia Region
Protected Areas Programme

CONTENTS

CONTENTS.....	2
Acknowledgements.....	3
Executive Summary.....	4
Background to the Mission.....	5
<i>Inscription History:</i>	5
<i>Criteria and World Heritage values:</i>	5
<i>Examination of the State of Conservation by the World Heritage Committee and its Bureau:</i>	5
<i>Justification of the mission:</i>	5
1. National Policy for the Preservation and Management of the World Heritage Property.....	6
<i>Protected Area legislation:</i>	6
<i>Institutional framework:</i>	6
<i>Management structure:</i>	6
2. Identification and Assessment of Issues.....	6
<i>Management:</i>	6
<i>Factors affecting the property:</i>	7
3. Assessment of the State of Conservation of the site.....	7
<i>Poaching:</i>	7
<i>Habitat degradation:</i>	9
<i>Pollution of the Narayani River:</i>	9
<i>Development projects</i>	10
<i>Kasra Bridge and Link Road:</i>	10
<i>Electricity Transmission Line:</i>	12
4. Conclusions and Recommendations.....	13
Annexes.....	17
5.1 Terms Of Reference.....	17
5.2 Itinerary And Programme.....	17
5.3 Composition of Mission team.....	19
5.4 Map of Royal Chitwan National Park.....	20
5.5 Photographs.....	22

Acknowledgements

I am grateful to the Programme on Protected Areas at IUCN headquarter for giving me this opportunity to visit and report on the state of conservation of the Royal Chitwan National Park in Nepal. I am particularly thankful to David Sheppard, Pedro Rosabal, Georgina Peard and Maja Zitkovic for planning and facilitating this mission. Dr. Mahesh Banskota, Country Representative of IUCN Nepal and his colleague Mr. Sagendra Tiwari provided invaluable support for which I am extremely thankful.

On behalf of the State Party, Dr. Swayambhu Man Amatya, Director General, Dr. Narayan Poudel, Deputy Director General and Mr. Shyam Bajimaya, Chief Ecologist of the Department of National Parks and Wildlife Conservation (DNP&WC) were extremely helpful in coordinating the mission and providing all necessary assistance and information for which I am extremely grateful. Mr. Bajimaya not only accompanied the mission to Chitwan national park but also was present in all meetings and visits throughout the mission in Nepal. The Chief Warden of RCNP Mr. Puran Bhakta Shrestha facilitated the mission in the field and readily provided all relevant information.

My thanks are also due to Mr. Chandi P. Shrestha, Secretary of the Ministry of Forests and Soil Conservation, and Mrs. Riddhi Baba Pradhan, Secretary of the Ministry of Culture, Tourism and Civil Aviation for meeting me and discussing the various issues in a very frank and constructive manner. I owe my gratitude to Dr. Tirtha Man Maskey, Chief of the Environment Division in the Ministry of Forests and Soil Conservation and formerly Director General of the DNP&WC for providing insightful perspectives on various issues affecting the RCNP and actively participating in the meetings.

Thanks are also due to Dr. Uday Raj Sharma, Vice-Chair of the World Commission on Protected Areas (WCPA) for South Asia and Director General of the Department of Plant Resources (formerly also the Director General of the DNP&WC), Dr. Chandra Guring, Country Representative of WWF Nepal Programme, and to Mr. Prabhu Budathoki. The mission would not have been possible but for the willing assistance and cooperation of a large number of persons, both at Kathmandu and in the field in the Chitwan Valley and to all of them I owe my sincerest thanks.

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2 January 2003

Executive Summary

The Royal Chitwan National Park (RCNP) was established in 1973 and it was inscribed on the World Heritage list on 2 November 1984 under criteria (ii), (iii) and (iv) for natural properties. The WH Bureau and Committee have been examining the state of conservation of the site since 1984 and the various issues of concern over the years have included, industrial pollution in the Narayani river, proposed construction of an irrigation project, poaching of rhinoceros and tigers, development of buffer zone, etc.

The World Heritage Committee in its 26th Session held in June 2002 noted the state of conservation of the RCNP in relation to the construction of a bridge on the Kasra River and associated road, and the proposed construction of a transmission line through the WH site. Following its recommendations and an invitation from the State Party, a monitoring mission was undertaken to the site from 16 to 20 December 2002.

The mission notes that despite the extraordinary situation in Nepal posed by the problem of Maoist insurgency there is considerable commitment and resolve in the authorities concerned to effectively manage the country's natural heritage. Nevertheless, there are issues that are adversely affecting the integrity and values of the park and the following recommendations are made for strengthening the protection measures and for dealing with the other adverse developments:

- i. The Army should be redeployed in all the security posts where it was stationed previously, as soon as possible as the rise in poaching of rhinos is a serious cause for concern. Pending this the patrolling and vigilance operations should be improved considerably, both by the Army as well as the RCNP guards and in collaboration with buffer zone committees.
- ii. The discharge of effluents into the Narayani River by upstream industries continues and needs to be strictly regulated and controlled, including to ensure that effluents are fully treated before being discharged. Action also needs to be taken for effective grassland and wetland management, including through control of invasive alien species like water hyacinth and lantana.
- iii. The impact of tourism and the operations of tourist facilities within and in the periphery of the park should be reviewed and effective regulations put in place to mitigate potential adverse impacts.
- iv. Permission for operating the Kasra Bridge and the link road should be considered only under the specific conditions that have been recommended in this report, and the traffic passing through the public right of way should be strictly regulated.
- v. The fact that the Kasra Bridge was built inside a WH site and national park using funds provided by the World Bank, ADB and the Debt Relief Programme of Japan, in violation of existing laws and regulations should be brought to the notice of these funding agencies.
- vi. The State Party should consider the alternative option for laying the transmission line that causes the least impact to the WH site by providing electricity from the southern side, which is the preferred option. However, if it is impossible to do so and the transmission line passes through the park, various mitigatory and compensatory measures should be undertaken as recommended in this report.

Background to the Mission

Inscription History:

The HMG of Nepal created the Royal Chitwan National Park (RCNP) in 1973 conforming to IUCN management category II. It was inscribed on the World Heritage list on 2 November 1984. The area of the national park as originally declared was 932 sq km but recent calculations based on GIS maps show the area to be 1182 sq km. This change is attributed to the use of very generalised and small-scale maps and the absence of sophisticated area calculation methodology in the past, as well as to changes in the course of rivers.

Criteria and World Heritage values:

The RCNP was inscribed in the WH list under criteria (ii), (iii) and (iv) for natural properties. It was noted that the park is an outstanding example of ecological and biological evolution as the last major surviving example of the natural ecosystems of the Terai region (Criteria ii). The park also contains superlative natural features of exceptional natural beauty in terms of its scenic attractions of forested hills, grasslands, great rivers and views of the distant Himalayas (Criteria iii). Additionally, the park provides critical and viable habitat for significant populations of several rare and endangered species, especially the one-horned Asian rhino and the gharial (Criteria iv).

Examination of the State of Conservation by the World Heritage Committee and its Bureau:

The Bureau and Committee have been examining the state of conservation of the site since 1984 and the various issues of concern over the years have included, industrial pollution in the Narayani river, proposed construction of an irrigation project, poaching of rhinoceros and tigers, development of buffer zone, etc.

More recently, the World Heritage Committee in its 26th Session held in June 2002 noted the state of conservation of the RCNP and the decisions of the Bureau in its 26th Session that was held in April 2002. These relate to the construction of a bridge on the Kasra River and associated road, and the proposed construction of a electricity transmission line through the WH site. The Committee had requested the State Party to consider inviting a monitoring mission to the site in order to fully assess the impacts of the various development proposals being planned in the vicinity of the RCNP, and to consider alternatives that do not compromise the World Heritage values of the site.

Justification of the mission:

As noted above, the recommendation of the Bureau that the Committee subsequently adopted constituted the main justification for this mission. The State Party invited a monitoring mission to Nepal to visit the RCNP and Sagarmatha National Park WH sites. The detailed terms of reference, programme and composition of mission team is provided in the Annex.

1. National Policy for the Preservation and Management of the World Heritage Property

Protected Area legislation:

The RCNP has been established and managed under the provisions of the National Parks and Wildlife Conservation Act 2029 (1973) and the Royal Chitwan National Park Rules 2030 (1974). The 1973 Act was amended in 1990 for the first time. Currently the Fifth Amendment is in process, under which legal recognition will be provided to the World Heritage sites in Nepal. The Buffer Zone Management Regulations of 1996 and related Guidelines of 1999 govern activities in the buffer zone of the national park, which is meant to contribute to the conservation of the core zone and thus, prohibit activities that are destructive of forests, habitats and wildlife.

Institutional framework:

The RCNP and WH site is under the direct management responsibility of the Department of National Parks and Wildlife Conservation (DNP&WC) under the Ministry of Forests and Soil Conservation. The DNP&WC currently works with a network of 9 national parks, 3 wildlife reserves, 3 conservation areas, 1 hunting reserve and 5 buffer zones around national parks, covering a total of 26,696 sq km or 18.14% of the country's geographical area.

Management structure:

A Chief Warden heads the RCNP management, who is assisted by 4 Assistant Wardens, 18 Rangers, 19 Senior Game Scouts and 80 game Scouts. There is 1 Veterinary Doctor and 1 Veterinary Assistant, and 20 office and administrative staff. In addition, the elephant camp consists of a total of 130 staff. The authorised staff strength of the RCNP is 273 of which 33 positions are currently vacant.

2. Identification and Assessment of Issues

Management:

For management purposes, the RCNP is divided into 4 sectors with 46 guard posts (See Map in Annex). Of these, 2 posts are exclusively manned by the Royal Nepal Army (RNA), 6 jointly by the RNA and park staff, 25 exclusively by the park staff and 13 posts are currently unmanned. The strength of the RNA in the RCNP is that of 1 battalion or about 700 individuals. The role of the RNA is to support the park management in anti-poaching and law enforcement duties, as the park staff are not authorised to carry and use arms.

In 1996, an area of 766 sq km surrounding the national park was declared a buffer zone, which consists of forests and private lands. The Parsa Wildlife Reserve (499 sq km) established in 1984 serves as an extension to the RCNP on its eastern boundary. The buffer zone forests as well as corridor forest areas (e.g. Barandabhar and Daunne hill forests) have active management and research programmes resulting in revival and

conservation of these crucial wildlife habitats, and their repopulation by endangered species.

Management was initially guided by the Management Plan prepared in 1973, and more recently by the RCNP and Buffer Zone Management Plan 2001-2005. The activities are grouped under two main categories: park management and buffer zone management. The former inter alia include species and habitat management, as well as law enforcement, tourism management, conservation education, research and monitoring, etc. The latter covers some similar activities in the buffer zone, and also focuses on social and economic development activities.

The RCNP and Buffer Zone Management Plan 2001-2005 proposes a total budget of US\$ 8.9 million over the 5 year period, of which currently only 42% has been allocated by HMG of Nepal. The DNP&WC proposes to cover the remaining deficit of 58% though coordination with various national and international organisations and the donor community.

Under the National Parks and Wildlife Conservation Act of 1973, the Buffer Zone Management Regulations of 1996, and the Buffer Zone Management Guidelines of 1999 the Buffer Zone Committees have been empowered to manage the buffer zone areas for which they receive 30-50% of the park revenue annually to support conservation and community development activities. These activities are undertaken in collaboration and close coordination with the park management.

In addition to the park, 7 concessionaires and over 70 hotels and lodges at Sauraha and nearby areas offer tourism services. All of them provide various facilities like accommodation, vehicles, boats, elephants and guides to the visitors. Park visitor centres are available at Sauraha and Kasra, but these need major improvements.

Factors affecting the property:

The major factors that have varying impact upon the integrity of the RCNP WH site include poaching of rhinos, and other endangered species; habitat degradation through invasive alien species and natural succession; pollution of waterways through discharge of industrial and municipal effluents; development pressure from various planned and ongoing projects; etc. The impact of these factors on the state of conservation of the site is assessed in the next section.

3. Assessment of the State of Conservation of the site

Poaching:

The rhino is a flagship species for the RCNP and WH site (Fig. 1). The site supports the second largest population of the Asian one-horned rhinoceros, after the Kaziranga National Park and WH site in India. Although the rhino has always been a target for poachers despite the stiff penalties that the crime attracts (15 years rigorous imprisonment and a fine of NRs 100,000), there has been a sharp increase in rhino mortality in recent years (Table 1), which is a cause for concern.

Period	Natural death	Poaching	Unknown	Total
Mid July 1998 – Mid July 1999	21	2	2	25
Mid July 1999 – Mid July 2000	28	11	0	39
Mid July 2000 – Mid July 2001	13	7	2	22
Mid July 2001 – Mid July 2002	10	33	0	43
Mid July 2002 – 16 Dec 2002	11	14	2	27
Total	83	67	6	156

Reportedly the main basis for assigning mortality to “natural death” category is the fact that the horn is still attached to the body at the time that the dead rhino is recovered. This in itself cannot be a foolproof method for such categorisation and hence, the distinction between natural death and poaching cases is questionable. Nevertheless, even from a perusal of the figures in Table 1 it is amply clear that there has been an increase in the number of cases under the “poaching” category in the last few years. In the current year itself a total of 27 rhinos have died in the last 5 months (see above).

Poachers are reportedly using the current insurgency situation as a cover to target rhinos in the national park and its periphery. However, the Ministry of Forests and Soil Conservation (MFSC), the DNP&WC and the RCNP authorities are fully aware of the situation and have firmly expressed their resolve and commitment to deal with the issue. This is evident from the fact that the department itself had recently commissioned a detailed study on the poaching situation in the RCNP, which has already been submitted and influencing management actions. (For example, following the mission information was received that the number of Range Posts had been increased as also the number by another 40 as an effort to check poaching.) Moreover, during the last two years 40 poachers were arrested and 11 killed in encounters by the security forces.

One of the major changes in the law enforcement mechanism in recent times has been the consolidation of the RNA into only 8 posts, as compared to over 46 posts in the past. However, in discussions with the Army authorities they claim that this has not compromised their ability to provide effective protection as they have resorted to more frequent and intensive patrolling in collaboration with the park staff to cover all the parts of the park. Clearly, there needs to be a major improvement in the protection enforcement capability in the park through more intensive and extensive patrolling, use of wireless communication network, involvement of the Buffer Zone User Committees and Groups, intelligence gathering mechanisms, etc.

There is no doubt that the State Party is capable of controlling and reversing this situation as is evident from the past record. In fact, even at the time of inscription of the site in

¹ Source: Chief Warden, RCNP

1984 the IUCN evaluation had noted *“Nepal’s commitment to protected area management is strong...The current management of the park is of a high standard and the Government of Nepal has clearly demonstrated that it recognises the value of the park as an important part of Nepal’s heritage.”* The mission was also informed that there is a special committee under Parliament that periodically reviews the state of conservation of Nepal’s protected areas.

Habitat degradation:

Habitat degradation is evident through the spread of invasive alien species (IAS) like water hyacinth that is clogging some of the water bodies, Mikenia species that is choking the native vegetation in patches, spread of tall grasses at the cost of short palatable grasses, encroachment of grasslands by woody vegetation, etc. Some experienced managers and researchers have concluded that this is one of the reasons, coupled with the rise in rhino population that is causing them to stray outside the park and becoming easy targets for poachers.

In the past, a fine balance had been struck between the habitat management needs and needs of the local people for grass resources by allowing them to harvest grass within the RCNP each year over a two week period. However, in recent years this practice had been restricted initially to only one week in a year and then suspended all together over fears that it was unmanageable and the entry of tens of thousands of people into the park was causing more harm than good. The Chief Warden of RCNP now proposes to resume the practice of annual grass cutting over a one-week period in a regulated manner with permits being given to about only about 20,000 individuals on the recommendations of the Buffer Zone User Committees.

It was noted that the RNA had cleared vegetation, including young saplings and pole crop around its camps to provide better visibility and also barricaded the camps with trenches and barbed/razor wire for added protection. The protectors also need extra protection as the Maoist insurgents are specially targeting the security forces. However, since the RNA is now confined to only a few camps within the park the destruction is not widespread and perhaps in these extraordinary times this will have to be accepted as an inevitable necessity.

It is heartening to note that in addition to anti-poaching, on going and new activities related to habitat management such as grassland and wetland conservation, have been accorded Priority 1 ranking in the current Management Plan of the RCNP and Buffer Zone (2001-2005), which means that in spite of a resource shortfall for the overall management plan these priority activities will be implemented from the current HMG budget allocation.

Pollution of the Narayani River:

At the time when the RCNP was inscribed in the WH list in 1984, the 8th Session of the Committee had noted, *“that there was only a remote possibility that the proposed pulp mills be constructed on the Narayani River but requested that the Nepalese authorities keep it informed of any developments in this respect which could affect the Park.”*

Since then, not only the pulp and paper mill has been established (Fig. 3), but also recently its capacity has been doubled. A number of other industries have been established in the upstream areas all of which discharge their largely untreated effluents into the river. In addition, municipal wastes from various towns situated along banks of the river are also a major source of pollution. At its 21st Session in 1998 the Bureau expressed concern over the growing pollution in the Narayani River and recommended that projects should be designed and implemented to mitigate the impacts of pollution.

There does not appear to have been any improvement in the situation and signs of water pollution were clearly visible (froth) in the river when the mission visited Khorla Muhan on the banks of the river inside the park even in the late afternoon. It is reportedly frothier in the night when the industries discharge their effluents into the river. Despite this, several gharials were seen basking on the opposite bank of the river.

The main reason for the lack of any improvement in the situation is reportedly the fact that the Ministry of Population and Environment does not as yet have any machinery at the field level (environmental inspectors, etc) to enforce the provisions of the Environment Protection Act of 1996.

Development projects

Kasra Bridge and Link Road:

Undoubtedly, one of the issues that have attracted most concern in recent times over the state of conservation of the RCNP and WH site is the construction of the Kasra Bridge over the Rapti River (Fig. 5) and a road to connect it to the existing public right of way (ROW), thus, improving access to the villages of the Madi Valley (Fig. 9) to the south of the park and at the same time increasing access to the national park. The bridge was built without carrying out any environmental assessment, and despite protests of the DNP&WC and the RCNP authorities, as it had high-level political backing.

The bridge has been constructed with funding that has been drawn from the Japanese Debt Relief Fund (DRF), the World Bank (IMF), ADB and budget of HMGN. The total cost of the bridge was NRs 125 million (US\$ 1.62 million). How the international financial agencies and institutions extended financial support for a construction project in violation of protected area and environmental regulations in a WH site is incomprehensible. All the rivers (Rapti, Narayani and Reu) on the northern, western and southern boundaries respectively fall wholly within the boundaries of the RCNP and WH site.

It is reported that the bridge construction started in 1997 when the Environment Protection Act had just been enacted in 1996, and regulations to implement it were passed only in 1997. Hence, there was confusion of the applicability of the regulations to this case and work had already started by then.

The 3.8 km link road is a little used existing park inspection road that has now been upgraded through gravelling, construction of small culverts, and cross-drainage work (Fig. 4). These works were completed 4 months ago and the link road has been connected to the 6 km long existing public right of way (ROW) from Dhrubhaghat to Bankatta. This link road alignment was reportedly decided in consultation with the national park

authorities. However, the upgradation of the road has been done without any EIA having been conducted.

Following the controversy generated by this project, no permission has yet been accorded by the DNP&WC or the RCNP authorities to open the road to public traffic and it is currently not in use for this purpose. The 6 km public right of way is already gravelled (Fig. 6), as it is a Hulaki road (postal road) which means that it is one grade higher than a district road.

According to the Department of Road, the bridge was not constructed over the Rapti River at Dhrubhaghat because the span there would have been 500 metres, as opposed to the present 286 metres and because the alignment of the river there is not well defined due to frequent change of course and bank erosion (Fig. 2). The bridge is so designed as to cause the least obstruction to flood water flow and hence the recent flash or high flood in July 2002 cannot be attributed to the bridge. A similar high flood is reported to have occurred 9 years ago as well. The 8 piers are 33 metres apart and the bridge width is 6.7 metres.

The current density of traffic on the public ROW is about 30 vehicles per day – comprising mostly Heavy Motor Vehicles, as the Light Motor Vehicles cannot cross the Rapti River. With the opening of the bridge there would be some increase in the traffic density. This road already connects to Amuwa Thori on the Indo-Nepal border and then on to Birganj and Raxaul (128 km), also on that border. It could be seen as an alternate to the direct road to Birgunj (125 km).

A causeway is being built on the Reu River, which forms the southern boundary of the RCNP. The total length will be 400 metres of which only 200 metres has been constructed on the Madi Valley side for want of the required permission from the RCNP authorities (Fig. 11). No budget was allocated for the causeway in 2002 after dismissal of the government, as the local politicians who were pushing for the project earlier are no longer in power. The project is hence, delayed and is expected to be completed only by July 2004 if all permissions are accorded.

The approach road to the Khasra Bridge on the northern side is heavily damaged due to the July 2002 flash floods and in some places it is even non-existent. This road and several culverts on it will have to be restored before traffic can flow freely towards the new bridge.

The 3.8 km link road from the bridge to the public right of way near Dhrubhaghat has been metalled but is also very vulnerable to flooding, with sections of it in very bad condition already. It also passes through riverine forest and the mission sighted a rhino grazing close to the road (Fig. 7). Secondly, there is heavy bank erosion to the right of it from the Rapti river during flood season and it is not known how long the road might last. This might later on lead to demands to open the park road to the south that also connects to the public right of way but passes through critical wildlife habitat and is near a big wetland – the Tamor Tal (Fig 8).

The mission met with 18 representatives from the four Village Development Councils (VDCs) of Madi Valley (in the south) and Jagatpur (in the north) who turned up for a meeting convened by the Chief Warden of the RCNP to discuss issues related to the

bridge, alignment of the road and the transmission line. The total population of the four VDCs in the Madi Valley is about 58,000 but they do not have easy access to the district headquarter at Bharatpur or to essential medical and schooling facilities there. They aspire for better communications and electrification so that their basic needs are taken care of and they are able to better contribute to the conservation efforts. However, they do not want to see this happen at the cost of the RCNP.

The people in the buffer zone realise that the RCNP is a national and international heritage and needs to be protected and managed effectively. At the same time they also feel that there should not be a communication gap between the people and the park authorities on issues that are crucial to the development of the people stating, "*the RCNP is very important but the basic needs of the people also should be taken care of.*" During the meeting they asserted that the people of Madi Valley had always cooperated with the RCNP authorities and through the Buffer Zone User Committees and Groups have effectively contributed to the protection of the park. In fact, some of these villages were established by relocating about 10,000 people from the northern parts of the park at the time when it was established, to form a buffer on the southern boundary.

Setting aside the manner in which the bridge and connecting road were built in violation of laws and regulations, the fact remains that the facility of the public ROW was provided even at the time when the national park was created and that traffic continues to cross the Rapti river bed, although mainly during the dry season and connects (Fig. 12) to the ROW. What has been done now is to improve this facility to make it accessible throughout the year. Hence, there does not appear to be a strong case to prohibit the use of the bridge and the link road and a conditional approval with strict regulations could be considered, as recommended in section 4 below.

Electricity Transmission Line:

The other issue that has the potential to adversely affect the values of the RCNP WH site is the proposed construction of the 33 kV transmission line from Jagatpur to Madi, which will pass through 6 km of national park and 1.5 km of its buffer zone. This is a new development activity even though the alignment is meant to follow the existing public ROW. It is a public utility project that would serve the people of Madi valley but at the same time its alignment through the RCNP would undoubtedly adversely impact upon the values of the park under criterion (iii) for which it is inscribed in the WH list.

The mission met with the officials of the Nepal Electricity Authority (NEA) and learnt that the total cost of the project is about NRs 8 million (approx. US\$ 100,000) which is wholly funded by the NEA of which an amount of NRs 5 million had already been spent on the project. They mentioned that laying the transmission cable underground would be difficult, as it had never been done as part of a rural electrification project in Nepal. Manpower will have to be especially trained and its operation and maintenance will be difficult. They also mentioned that NEA will not be able to finance the increased costs of the project from its own resources, and that it will not be a profitable venture for them.

According to the NEA, if the transmission line is insulated then it will not entail any clearance on either side of the line (2 metre on either side of an un-insulated line) and perhaps no trees will have to be felled. They also mentioned that existing trees could also

be used to string the transmission line. If 11 metre cement concrete posts (Fig. 10) are to be used as planned, then the total number of posts that will be used in the 6 km stretch of the national park is 120 (@ 20 per km). There would be no reduction in the number of post if steel tubular posts were used instead of the cement concrete posts. From the northern Jagatpur side the transmission line will cross Rapti River at Dhrubaghat and not at the site of the new Kasra Bridge.

From the mission's interaction with the people of Madi Valley it is clear that they realise the transmission line is not being laid underground because of high cost. Furthermore, they mentioned that if required the RCNP should also contribute to the cost, and the people of Madi Valley would be willing to make their contribution as well. Work had been done in the last three years in the Madi area for erecting poles and transmission lines and budget had been allocated in the current year as well. However no further work could be undertaken, as the RCNP authorities have not permitted the work to continue through the park.

The position of the MFSC and the DNP&WC is that the transmission line should be laid underground if the NEA wishes that it should pass through the RCNP, and that cost should not be a consideration. Discussions with the NEA officials reveal that possibilities do exist for bringing electricity to the Madi valley from the Pokharia sub-station in the southern side of RCNP, and that the transmission line can be laid underground over the 6 km stretch where it passes through the national park. However, it was mentioned that both these alternatives would involve a significantly higher project cost. The mission requested the NEA to provide estimates of the costs of these alternatives. NEA provided this information to the DNP&WC through an unsigned fax message on the last day of the mission, according to which the cost of each of these alternatives would be about NRs 30 million (US\$ 390,000).

As mentioned, the erection of the transmission line through the RCNP and WH site would be a new development activity, even though it is meant to follow the already existing public ROW. It would not be advisable to use the ROW as a development corridor, as this would open the floodgates of demands for other benefits to be extended through this route. Besides, the erection of the transmission line would clearly be a visual intrusion with adverse impacts upon the values of the site under criteria (iii). For these reasons the construction of the transmission line may be considered only under certain conditions, as recommended in section 4 below.

4. Conclusions and Recommendations

These are extraordinary times for Nepal as it is trying to come to grips with the problem of Maoist insurgency. Despite this, there is no lacking of commitment and resolve in the authorities concerned to effectively manage the country's natural heritage. The country needs the support and assistance in its endeavours from all quarters, including international organisations and the donor community.

The following recommendations are made for strengthening the protection measures and for dealing with the other factors discussed above that are affecting or have the potential to affect the integrity of the RCNP and WH site:

Control of poaching:

- vii. As soon as the overall security situation improves, the Army should be redeployed in all the security posts where it was stationed previously. Pending this the patrolling and vigilance operations should be improved considerably, both by the Army as well as the RCNP guards and in collaboration with buffer zone committees.
- viii. The wireless radio communication system in the RCNP is not functional at present due to damage to the repeater station. Resources must be made available to restore this crucial communication network immediately.
- ix. Greater vigilance and control is required to be exercised by the park authorities over the activities of the current and former workers of the concessionaires who operate lodges and hotels in and around the national park, as there is suspicion that they could also be acting as informants to the poachers.

Other management issues:

- x. Adequate resources need to be mobilised for implementing the ongoing and prioritised management activities of the current management plan for the national park and buffer zone, covering the period up to the year 2005.
- xi. The spread of invasive alien species (IAS) of plants like Mikenia, water Hyacinth and Lantana should be controlled and ultimately eradicated and grasslands should be managed effectively to meet the habitat needs of various species.
- xii. The discharge of effluents into the Narayani River by upstream industries like the Bhrikuti Paper and Pulp Mill, the beer factories, etc should be strictly regulated and controlled by pursuing the Ministry of Population and Environment and the Ministry of Industries to take necessary action, including to ensure that effluents are fully treated before being discharged into the environment.
- xiii. There is a need to conduct an objective assessment of the impact of tourism operations in the RCNP, including the role of the 7 tourism concessionaires and hotels whose long-term lease ends in 2008, as already recognised in the current management plan. In future tourism facilities and operations should be confined to the buffer zone as far as possible, in view of the habitat recovery and its repopulation by various species.
- xiv. The draft tourism management plan should be approved soon and resources allocated for its implementation. There has to be effective control over the growth and activities of tourist facilities in the vicinity of the WH site, and these should conform to an agreed code of conduct. The park authorities should consider making it mandatory for a park-authorized guide (trained from the local communities) to accompany all visitors entering the park.
- xv. The park visitor centre at Sauraha and the museum at Kasra (funded by the WH Fund) should be upgraded to offer creative and interactive information and orientation to the visitors.

Kasra bridge and road:

- xvi. The following conditions should be stipulated to the Department of Roads while considering the grant of permission to them to operate the Kasra Bridge and link it to the existing public ROW:
- a. Give a commitment that the road, which is actually a right of way for the Madi Valley residents, will not be used as a thoroughfare, especially for transportation of commercial goods to destinations beyond Madi.
 - b. Establish a permanent guard post for the RNA and park staff to be stationed at the northern end of the Kasra Bridge. This will enable the army to issue slips to each vehicle passing along the public right of way that would be checked at the other end (Bankatta or Dhruba) by the army post there, thus, effectively controlling movement of people, vehicles, and goods along the road.
 - c. Strengthen the existing guard posts at Dhruba and Bankatta to allow more personnel to be stationed at these places and link them with walkie-talkie sets.
 - d. If considered feasible, establish a guard post mid-way between Dhruba and Bankatta (at the 3 km point) to allow for some park staff to be positioned there who could regularly patrol the ROW.
 - e. Reinforce the recently gravelled 3.8 km link road to make it more stable and maintain it regularly.
 - f. Close down the existing vehicle crossing point on the Rapti River and the road that connects to the public right of way inside the park once the Kasra Bridge and the new link road are made operational.
 - g. Stabilise the river embankment along this link road by erecting spurs to prevent erosion by the Rapti River that is endangering the survival of this road.
 - h. Give a commitment not to demand opening of the internal park road (that goes close to the Tamor Tal) as an alternative to the link road at any time in the future.
 - i. Give a commitment not to upgrade the status of the existing public ROW, which is a Hulaki road (postal road) to any higher status, such as a highway or others that would enable it to be metalled.
 - j. Regulate the times of operation of traffic passing over the Kasra Bridge and the ROW between sunrise and sunset or at certain hours of the day only, enforce strictly the 40 km speed limit, and also consider limiting the number of vehicles that could pass through during the course of a day. The condition to limit the operation time and the flow of traffic should not be rescinded in the face of public or political pressure in future, as was done in the case of the national highway that passes through the Royal Bardia National Park (Earlier it used to be operational only from sunrise to sunset, but under public pressure it is now kept open all through the night as well).
 - k. Resume work on the causeway under construction on the Reu River only after a proper and independent EIA has been undertaken.
 - l. Give a commitment that the 13 km of road on the southern boundary of the park from Bagai to Amuwa Thori will not be metalled or upgraded in any way.

- m. The WH Committee should be requested to question the bilateral and multilateral funding agencies (Japanese Debt Relief Programme, World Bank, and ADB) who allowed the use of their funds for the project in violation of environmental, protected area, and WH laws and regulations.

Transmission line:

- xi. As regards the proposal for the 33 kV transmission line, IUCN believes that it should not have been allowed due to its direct and indirect impacts on the WH values. However, after taking all aspects into consideration particularly those related to the well being of the local people, it is recommended that the erection of the transmission line should be permitted only under the following conditions:
 - a. The preferred option would be to bring electricity to the Madi valley from the Pokharia sub-station, south of the RCNP. If this option is chosen then the alignment of the transmission line should be such that it does not cross the national park area at any place.
 - b. Alternatively, if the transmission line is to follow the proposed alignment along the existing public ROW from Dhruba to Bankatta, it should be laid underground over the 6 km stretch that passes through the national park, and preferably also over the 1.5 km stretch that passes through the buffer zone. If the latter is not possible, then the transmission line should at least be insulated over this 1.5 km stretch in the buffer zone.
 - c. If the option in (b) above is chosen then the NEA should undertake mitigatory and compensatory measures, including plantation programme over 4 ha of community land; plant five seedlings for the loss of every plant; support appropriate habitat management programme in the RCNP; implement buffer zone management programme in coordination with the RCNP authorities and the Buffer Zone User Committees and Groups; restore the construction site to original status and maintain the ROW; and closely monitor the construction, operation and maintenance phases of the project.

Annexes

5.1 Terms Of Reference

- Undertake, the IUCN World Heritage Monitoring Mission to Nepal, to monitor the state of conservation of the site;
- Liaise with the relevant authorities in Nepal (as advised by IUCN) in relation to organising the above mission;
- While on mission, make contact with various stakeholders (as advised by IUCN) to discuss the state of conservation of the site, and provide IUCN with the contact details of the most relevant and reliable sources of information for future reactive monitoring of the site;
- While on mission, take photographs which reflect the key threats to the conservation of the site using 35mm slide film and/or digital camera and deliver a selection of slides/JPEG files with a short text describing the contents of each slide/file to IUCN;
- Prepare the IUCN draft Monitoring Mission Report of approximately 10 pages following the format advised by IUCN.
- Ensure that the Monitoring Mission Report includes:
 - i) An evaluation of the nature and extent of threats to the site, taking into consideration the values for which the site was inscribed and specific issues outlined by the World Heritage Bureau / Committee;
 - ii) An account of measures which the State Party plans to take to protect the outstanding World Heritage values of the site,
 - iii) Recommendations for any additional action to be taken by the State Party, including draft recommendations to the World Heritage Bureau / Committee;

NOTE: The final decision on IUCN's recommendation to the World Heritage Bureau / Committee will be made by the World Heritage Panel.

- Prepare a brief 'trip report' (2 pages), for internal use, outlining positive and negative aspects of the mission which IUCN should be aware of and suggestions for follow-up action by IUCN;
- Provide comments to update the relevant IUCN/UNEP-WCMC site sheet. Site sheets are available from http://www.unep-wcmc.org/protected_areas/data/wh/ or from IUCN upon request; and
- Deliver to IUCN no later than 20 January 2003, a hard copy and electronic version of the Monitoring Mission Report, relevant slides/JPEG files and the contact details of individuals or organisations for future monitoring purposes.

5.2 Itinerary And Programme

Sunday 15 Dec 2002

Arrived at Kathmandu in the afternoon. Met by Mr. Shyam Bajimaya, Ecologist of the Department of National Parks and Wildlife Conservation at the airport. Discussed programme for mission and various meetings with officials and individuals and agreed upon some changes.

Met Dr. Uday Raj Sharma, Director General of the Department of Plant Resources and WCPA Vice-Chair for South Asia and discussed various issues concerning the mission.

In the evening, attended opening ceremony of Regional Workshop on Medicinal Plants organized by the Ministry of Forest and Soil Conservation and WWF Nepal, in collaboration with WWF-UK and UNESCO programme on medicinal plants. Had informal meeting with Dr. Chandra Gurung Country Representative of WWF-Nepal, Dr. Pralad Yonzon of Habitat Himalaya, and several other officials of the Department of National Parks and Wildlife Conservation, Department of Forest, etc.

Monday 16 December 2002

Met with Mr. Narayan Poudel, Deputy Director General of the Department of National Parks and Wildlife Conservation, Mr. Tika Ram Adhikari, Chief Warden of Parsa Wildlife Sanctuary (native of Madi Village in the RCNP) to get his perspectives on the transmission line and road proposal.

Met with Mr. C. P. Shreshtha, Secretary of the Ministry of Forests and Soil Conservation and Dr. S. M. Amatya, Director General of the Department of National Parks and Wildlife Conservation.

Left Kathmandu accompanied by Mr. Shayam Bajimaya for RCNP and reached at 5 PM. Met with Mr. Puran Bhakta Shrestha, Chief Warden of RCNP and halted at Gaida Wildlife Camp at Sauraha.

Tuesday 17 December 2002

Met with Mr. Narayan Pd. Dhakel, Project Director of the KMTNC Biodiversity Conservation Center and his staff.

Visited Narayangarh and viewed the Narayani River, as well as the industrial estate across the river with the paper mill that is a source of pollution to the river.

Met with Mr. Tulasi Sitaula, Civil Engineer, Department of Roads, Division 8 at Bharatpur

Visited the office of the Nepal Electricity Authority, Bharatpur Branch to discuss issues related to the 33 KVA transmission line, but nobody was able to provide any details stating that they were new to their positions.

Proceeded to Khasra to view the recently built bridge and then the park headquarter.

Visited the RCNP office and interpretation centre that had been funded by the WH Fund.

Drove along the 3.8 km link road, then the 6 km road from Dhruhagahat to Bankatta which connects to the Madi Valley and constitutes also the alignment for the 33 KVA transmission line. Saw causeway under construction on the Reu River. Drove to Tiger Tops and then to Khorja Muhan to the banks of the Narayani River as it passes through the RCNP. Return to Tiger Tops and halt.

Wednesday 18 December 2002

Drove from Tiger Tops to and along the full length of the park inspection road near Timor Tal, and the second public right of way from Ghatgain to Dhoba.

Proceeded to Kasra and had meeting with the Army authorities (Major Shanker Karki and his officers) and 18 representatives from Madi Valley villages and Jagatpur VDC.

Proceeded to Sauraha and halt at the Rhino Lodge.

Thursday 19 December 2002

Travelled to Kathmandu by road. Met with Mr. Upendra Dev Bhatta, Chief of the Environment Division, Assistant Manger Mr. Rabindra Chaudhary, and Er. Chiranjibi Sharma, of the Nepal Electricity Authority (NEA) and discussed various issues relating to the 33 kV transmission line project in the RCNP. Halt at Kathmandu.

Met with Dr. Narayan Poudel, Deputy Director General of the DNP&WC to discuss state of conservation of the RCNP and Sagarmatha National Park, as well as other priorities for protected areas in Nepal.

Friday 20 December 2002

Met with Dr. Mahesh Banskota, Country Representative, Mr. Sagendra Tiwari and Ms. Julia Robinson of IUCN Nepal.

Met with Mr. Arup Rajouria, Member and Secretary of the Governing Board of Trustees and CEO of the King Mahendra Trust for Nature Conservation (KMTNC) to discuss various activities of the Trust in and around the RCNP and other protected areas in Nepal.

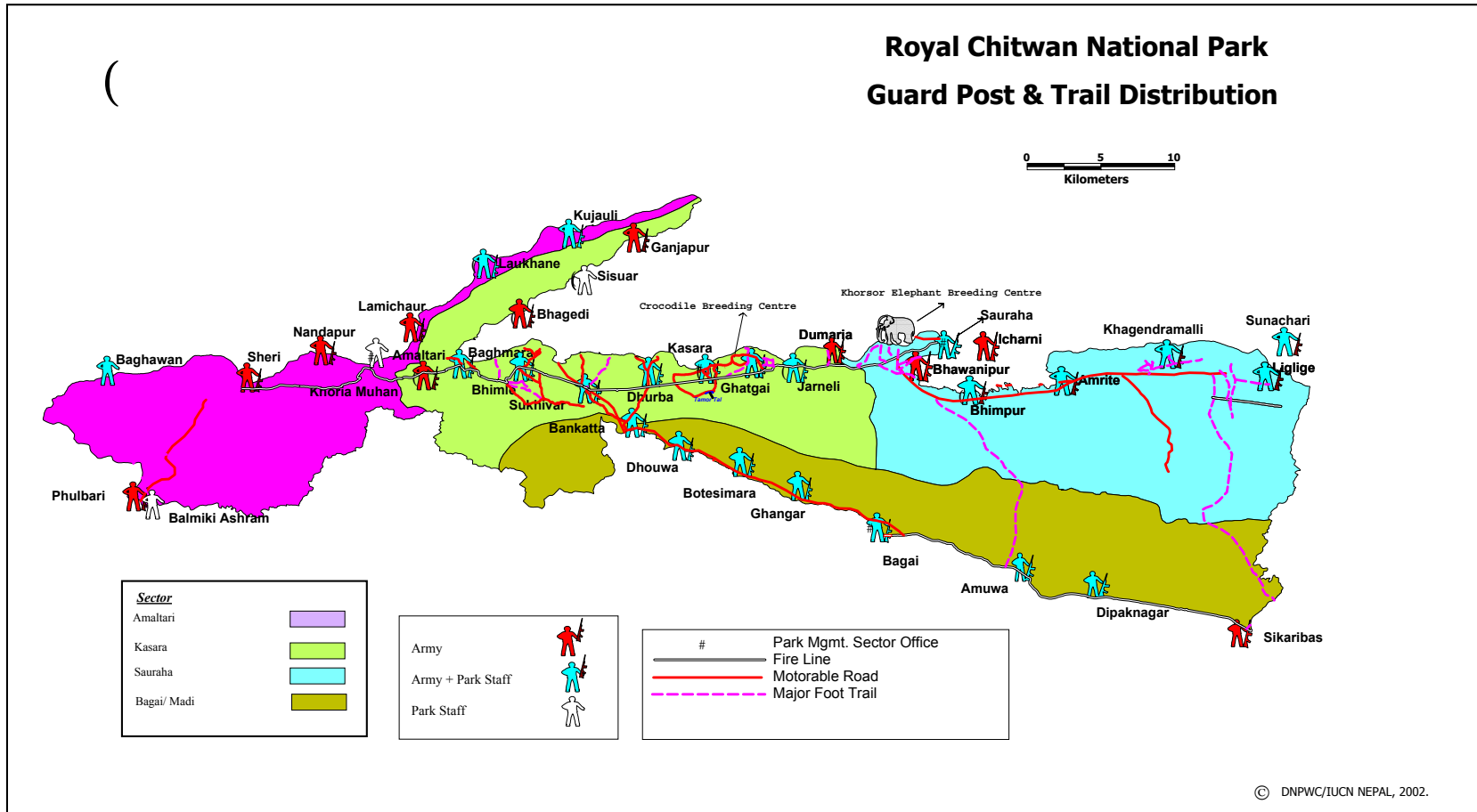
Met with Dr. Chandra Gurung, Country Representative, Mr. Ghana Shyam Gurung, Director of Programmes in WWF Nepal and Ms. Lisa Choegyal, Independent Consultant and Advisor to DFID.

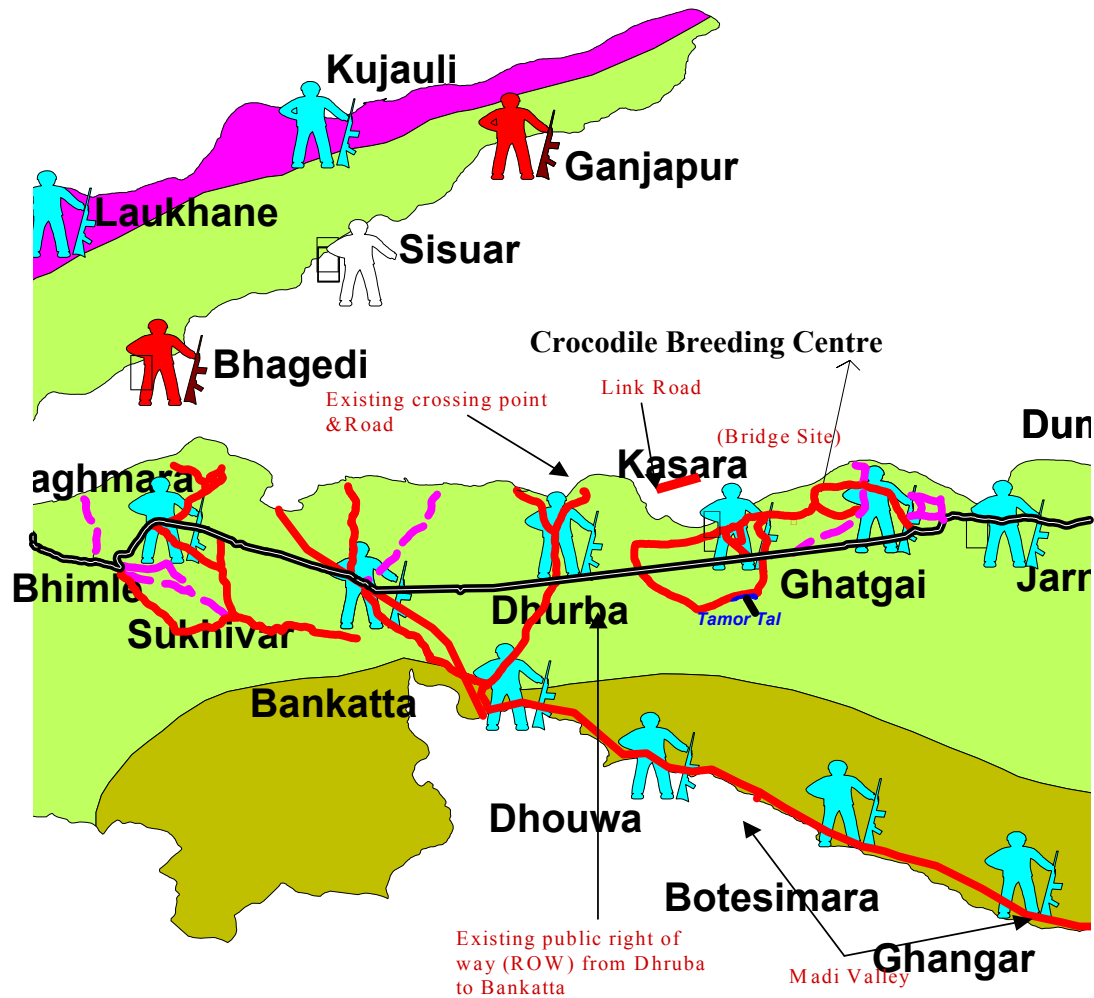
Made arrangements for mission to Sagarmatha National Park, including hiring and purchase of equipment and supplies. Halt at Kathmandu.

5.3 Composition of Mission team

The mission team comprised Mr. Kishore Rao, Head of IUCN Asia's Regional Protected Areas Programme and Mr. Shyam Bajimaya, Chief Ecologist of the Department of National Parks and Wildlife Conservation under the Ministry of Forest and Soil Conservation, HMG of Nepal.

5.4 Map of Royal Chitwan National Park





RCNP MAP – 2

Enlarged version of Kasra Section of the RCNP Map showing the site of the Kasra Bridge, the link road connecting the bridge to the existing public right of way (ROW).

The existing public ROW extends from Dhruba to Bankatta.

Note the existing point where the vehicles cross the Rapti River (which forms the northern boundary of the park) and the road that connects to the public ROW. This road is in very bad condition and will have to be closed down once the Kasra Bridge and new link road are operational.

Also note location of the Tamor Tal Wetland along the interior park inspection road. Access should not be provided on this road to connect to public ROW any time in the future.

5.5 Photographs



Fig. 1 Rhino in Chitwan



Fig. 2 Dhrubaghat where vehicles cross the Rapti River at present



Fig. 3 Paper and pulp mill on the banks of Narayani River at Narayangarh



Fig. 4 Link road connecting Kasra Bridge to the public right of way



Fig. 5 Kasra Bridge on Rapti River



Fig. 6 Existing public right of way



Fig. 7 Rhino grazing next to link road



Fig. 8 Tamor Tal wetland



Fig. 9 View of Madi Valley



Fig. 10 Cement concrete posts at site



Fig. 11 Causeway under construction over the Reu River



Fig. 12 Condition of existing road used by vehicles crossing the Rapti River to connect to right of way