Periodic Report of Nanda Devi National Park, Uttaranchal, India
December 2002

Chief Wildlife Warden
Uttaranchal Forest Department
Uttaranchal, India.

If the space on the Questionnaire is not sufficient, please continue on a separate page, clearly labelling the answer with the corresponding number of the question (e.g. 006).
PERIODIC REPORTING EXERCISE
ON THE APPLICATION OF THE WORLD HERITAGE CONVENTION

State of Conservation of specific World Heritage properties

State Party: Government of Uttarakhand
Property Name: Nanda Devi National Park

If the space on the Questionnaire is not sufficient, please continue on a separate page, clearly labelling the answer with the corresponding number of the question (e.g. 006).
### II.1 - Introduction

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<td>a.</td>
<td>Country (and State Party if different): <strong>Country - India, State Govt - Uttaranchal, Region - Garhwal, District - Chamoli</strong>.</td>
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<td>b.</td>
<td>Name of World Heritage property: <strong>Nanda Devi National Park, India</strong></td>
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<td>c.</td>
<td>In order to locate the property precisely, please attach a topographic map showing scale, orientation, projection, datum, site name, date and graticule. The map should be an original print and not be trimmed. The site boundaries should be shown on the map. In addition they can be submitted in a detailed description, indicating topographic and other legally defined national, regional, or international boundaries followed by the site boundaries. The State Parties are encouraged to submit the geographic information in digital form so that it can be integrated into a Geographic Information System (GIS). On this questionnaire indicate the geographical co-ordinates to the nearest second (in the case of large sites, towns, areas etc., give at least 3 sets of geographical co-ordinates):</td>
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<td><strong>Topographic Map - Attached, Scale 1 inch = 2 mile (Annexure I)</strong></td>
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<td>Coordinates: 30° 16' to 30° 32' North 79° 44' to 80° 02' East</td>
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<td>d.</td>
<td>Give the date of inscription on the World Heritage List and subsequent extension (if applicable):</td>
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<td>e.</td>
<td>Organisation(s) or entity(ies) responsible for the preparation of this report.</td>
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<td><strong>Organisation(s) / entity(ies): Forest Department, State - Uttaranchal, India</strong></td>
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<td></td>
<td>Person(s) responsible:</td>
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<tr>
<td></td>
<td>1. <strong>A.K. Banerjee, Divisional Forest Officer, Nanda Devi National Park</strong></td>
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<tr>
<td></td>
<td>Address: Forest Complex, PO- Joshimath, Dist - Chamoli, Uttaranchal, India</td>
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<tr>
<td></td>
<td>City and post code: Joshimath. Telephone: 91-1389 – 22179 Fax: 91-1389 – 22179 Postal Code – 246443</td>
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<td>2. <strong>Jyotsna Sitling, Conservator/ Director, Nandadevi Biosphere Reserve.</strong></td>
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<td>Address: PO- Gopeshwar, Dist – Chamoli, Uttaranchal, India. Postal Code- 246401</td>
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<td>3. <strong>B.D Kandpal, Chief Wildlife Warden,</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Address: Forest Complex, Dillaram Bazar, PO- Dehradun, Dist - Dehradun, Uttaranchal, India</td>
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<td></td>
<td>City and post code: Dehradun. Postal Code - 248001</td>
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<td></td>
<td>Telephone: 91-135- 741607 Fax: 91-135 – 744225</td>
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<td>f.</td>
<td>Date of preparation of the report: <strong>15.12.2002</strong></td>
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<td>Signature on behalf of the State Party</td>
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### II.2. Statement of significance

At the time of inscribing a property on the World Heritage List, the World Heritage Committee indicates its outstanding universal value(s), or World Heritage value(s), by deciding on the criteria for which the property deserved to be included on the World Heritage List. Circle the criteria retained for the inscription:

**Cultural criteria:** i – ii – iii – iv – v – vi

**Natural criteria:** i – ii – iii – iv

<table>
<thead>
<tr>
<th>Natural Criteria</th>
<th>(iii) &amp; (iv)</th>
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Were new criteria added by re-nominating and/or extending the property after the original inscription?  

YES / NO

If YES, please explain:  

N.A

Please quote observations concerning the property made by the Advisory Body(ies) during the evaluation of the nomination:

The following observations were made -

" Nanda Devi National Park is an outstanding mountain wilderness with few if any parallels elsewhere in the Himalayas on account of its concentration of high peaks and glaciers lying within a range of near-pristine habitats. It lies within a bio-geographical transition zone between the Western and Eastern Himalayas and supports a variety of threatened and uncommon species of large mammals. The present status of these populations is not known but may have suffered from poaching since 1981-84 when they were last surveyed by the Zoological Survey of India.

The site merits inclusion in the World Heritage List on the basis of its exceptional natural beauty criteria (iii) and populations of rare and threatened mammals criteria (iv). Integrity concerns are the lack of an adequate management plan approved by the State authority, absence of routine patrolling within the " Inner Sanctuary " and an up-to-date report on wildlife populations. Moreover, as world heritage site it is expected that Nanda Devi National Park will receive increasing demands to open the park to controlled visitations."

Quote the decisions and observations / recommendations, if appropriate, made by the World Heritage Committee at the time of inscription and extension (if applicable):

The following recommendations were made by the evaluation committee -

" Nanda Devi Park should be added to the World Heritage List. The bureau should request the Indian authorities to provide clarifications on the following points:

- Present status of the management plan.
- Frequency and extent of patrolling within the " Inner Sanctuary ".
- Future Policy regarding provisions for tourism.
- Present status of wildlife populations, particularly large mammals such as blue sheep.

If the National Park is reopened for mountaineering and trekking, the authorities might wish to approach the World Heritage Committee for assistance in planning and managing tourism. Possibilities might include:

- Provision of Technical assistance to develop a plan for controlling nature tourism, with benefits accruing directly to the local community;
- Training of staff and park guides in park management, with special emphasis on managing nature tourism in mountain areas.

The authorities might also wish to seek assistance to carry out a wildlife status survey."

If the space on the Questionnaire is not sufficient, please continue on a separate page, clearly labelling the answer with the corresponding number of the question (e.g. 006).
**Identify the actions taken as follow-up to these observations and/or decisions:**

**Present status of the management plan.**

The Nanda Devi National park is now being managed as a core zone of the Nanda Devi Biosphere Reserve for which a duly approved management plan has been prepared. A extract of management plan with Annual Plan of Operation (APO) for 2001-2002 and 2002-2003 is enclosed in Annexure - II. Basing on this management plan an Annual Plan of operation is prepared every year in the month of April, which is first discussed in the district level committee in which all the district level officers and local people's representative ( village heads ) take part. After passing of the Annual Plan of Operation at the District Level Committee, the APO is sent to the State Level Committee for approval which is then sent to the Ministry of Environment of Forest, Govt. of India for release of funds under UNESCO's Man and Biosphere project. The works generally start from the month of June onwards every year.

Apart from this, World Bank funded Eco-Development project is also being carried out in 14 villages out of the 47 villages of buffer area. Funds have been released to the Eco Development Committee directly on the basis of Micro Plan prepared with the community. The Park authorities have been playing the role of facilitator for Eco Development committees for ecological awareness and economic development of members. Efforts are being made to utilise the financial support of this project as seed money for the revolving fund of the community. The process of loaning for individual as well as groups and the rotation frequency have remained very encouraging. This has increased the involvement of the community in eco-development activities of the region. Process of formation of Eco-Development committee in rest of 33 NDBR villages is in progress.

**Frequency and extent of patrolling within the "Inner Sanctuary".**

As stated above the Nanda Devi National Park is being managed as a core zone of the NDBR. This core zone is a strict conservation area and minimum disturbance is made in the inner sanctuary except periodic monitoring works which are carried out in close association with scientific and expert institutions like Wildlife Institute of India and GB Pant Institute of Himalayan Environment and Development. Every year provision is kept in the APO for the protection works in the inner sanctuary which is funded by Central Government. In this APO, provisions of Long Range (10 days duration) and Short Range (3 days) patrolling is provided for. Strict patrolling in the outer boundary of the park specially in the winter months when poachers become most active is carried out. The inner sanctuary automatically remained safe because of its unique setting (bowl shapes with high mountain peaks all around and nonnegotiable snow covered paths). The park is bounded by high mountain ridges and peaks on all sides except its western side, which features a deep and virtually inaccessible gorge. Some of the important peaks encircling the National Park are Dunagiri (7066 Mt.), Changbang (6864 Mt.), Kalnka (6931 Mt.), Rishi Pahar (6992 Mt.), Mangraon (6765 Mt.), Nanda Khat (6631 Mt.), Maiktoli (6803 Mt.), Mrigthuni (6655 Mt.), Trishul -I (7120 Mt.), Trishul-II (6319 Mt.), Bethartoli Himal (6352 Mt.) and Nanda Devi East (7434 Mt.). Nanda Devi main (7817 Mt.), Devisthan-I (6529 Mt.), Devisthan-II (6678 Mt.) and Hanuman (6070 Mt.) peaks are situated inside the park. From May to Sept occasional (sudden) patrol is done in the inner sanctuary in a very careful manner so that the wild animals are least disturbed. Patrol in the inner sanctuary also automatically takes place when wildlife guards and any scientific team goes inside with special permission.

**Future policy regarding provisions for tourism.**

There is no future plan of opening of tourism or mountaineering in the inner sanctuary. Allowing of very strictly regulated trekkers upto Dharasi can be thought of at CWLW level if good results of eco-tourism in the buffer is found. Eco-tourism in the buffer areas and mountaineering in the peaks situated in the periphery of the park (through the routes falling in the buffer area) and other peaks in the buffer zone and
nearby adjacent areas are being encouraged. All the routes have been identified and also all the related village situated in the route have also been properly marked and listed. The trekkers and mountaineers who come with special permission of IMF are allowed to climb in the peripheral peaks of the park only when they provide list of guides and porters they hire from the identified villages. This has been giving local employment to the youths. The village women are being encouraged to provide cooked local food to the trekkers. This is also providing economic boost to the locals. The local youths are also being given training to serve as guides. The trekkers are also given set of rules and code of conduct which they are supposed to follow. A copy of the tourism plan in the buffer area is attached as Annexure - III.

Present status of wildlife populations, particularly large mammals such as blue sheep.

In order to monitor the change after the creation of biosphere a survey was conducted in 1993 by a joint team of scientists and trekkers. The observation of the team has suggested a phenomenal improvement in the condition of the forests inside the park in terms of vegetation cover important flora and fauna.

Please refer 083 for elaborate answer. The state government of Uttaranchal has prepared the Eco-tourism Policy. The same will be adopted soon.

Please propose a statement of significance by providing a description of the World Heritage value(s) for which the property was inscribed on the World Heritage List. This description should reflect the criterion (criteria) on the basis of which the Committee inscribed the property on the World Heritage List and it should also detail what the property represents, what makes it outstanding, what the specific values are that distinguish the property as well as what its relationship with its setting is, etc.:

The Nanda Devi National park the world heritage site has unique topography, climate, and soil and it supports diverse habitat, species, communities and ecosystems. The area is reputed as one of the most spectacular wilderness in the Himalaya and is dominated by "Nanda Devi Peak which is a natural monument and India's second highest peak. Unlike many other Himalayan areas, it is free from human settlement and has remained largely unspoilt due to its inaccessibility. It will provide the future control site for the study of rare flora and fauna in the Himalayan region.

OOverall Vegetation: Forests are restricted largely to the Rishi Gorge and are dominated by fir Abies pindrow, rhododendron Rhododendron campanulatum and birch Betula utilis up to about 3,350m. Forming a broad belt between these and the alpine meadows is birch forest, with an understorey of rhododendron. Conditions are drier within the 'Inner Sanctuary', becoming almost xeric in xerophytic the main Nanda Devi glaciers. Beyond Ramani, the vegetation switches from forest to dry alpine communities, with scrub juniper Juniperus pseudosabina becoming the dominant cover within the 'Inner Sanctuary'. Juniper gives way attitudinally to grasses, mosses and lichens, and on riverine soils to annual herbs and dwarf willow Salix spp. Woody vegetation extends along the sides of the main glacier before changing gradually to alpines and lichens. In all nearly 620 species of plants are known from the core zone (i.e. the Nanda Devi National Park) of Nanda Devi Biosphere Reserve. Of these 531 are angiosperms, 11 are gymnosperms and 78 are pteridophytes.

The alpine meadow of NDBR support a wide variety of flowering plants such as Potentillas, Geraniuns, Androsace, Primulas, Pedicularis, Gentians, Morina etc. The bugyals are also rich in medicinal plants such as Orchis latifolia, Jurinea sp, Thalictrum Sp, Gaultheria sp. etc. Below the bugyals lies the sub-alpine forest of Birch (Betula utilis) and Rhododendron campanulatum. The
temperate forests of broad leaves and conifers are found mainly in the Dhauliganga and Pindar valleys. The forests of the Pindar valley are moist and have an admixture of Spruce, Fir, Maples, Horse Chestnut, Walnut, Oaks etc. The Dhauliganga valley forests are dry and are dominated by Deodar and BluePine.

About 15 plant species of this park fall under the category of rare and endangered species of which the ten main species are Aconitum spp, Circeaster agrestis, Epipogium aphyllum, Listera spp., Meconopsis aculeata, Nardostachys grandiflora, Orchis latifolia, Podophyllum hexandrum, Saussrea obvallata and Texus bacata

FAUNA: NDBR have recorded 546 faunal species from the whole biosphere reserve area. The various faunistic surveys in the park has resulted in the finding of the presence of 18 mammals. Seven of these are endangered.

The important mammals are snow leopard(Panthera uncia) Black Bear (Celenarctos thibetanus) Brown Bear (Ursus arctos) Musk Deer (Moschus chrysogaster) Bharal (Pseudois nyan), Himalayan Tahr (Hemitragus jemlahicus), Serow (Capricornis sumatraensis). The distribution of goral Nemorhaedus goral (LR) does not appear to extend to within the basin, although the species does occur in the vicinity of the national park (Tak and Lamba, 1985; Lamba, 1987). The only primate present is common langur Presbytis entellus (Tak and Lamba, 1985; Lamba, 1987) although Rhesus macaque Macaca mulata (LR) has been sighted outside the park boundaries (Sathyakumar, n.d.).

Nearly 200 species of birds are reported from the biosphere reserve. These birds are of temperate, sub-alpine and alpine zone of Himalayas. Many of the birds species found in the area move down to lower altitudes in the lower Himalayas and foothill while a few migrate down even to the northern plains and peninsular India in the winters. Abundant species recorded during May-June include crested black tit Parus melanolophus, Yellow-bellied fantail flycatcher Rhipidura hypoxantha, Orange flanked bush robin Erithacus cyaninus, Bluefronted redstart Phoenicurus frontalis, Indian tree pipit Anthus hodgsoni, Vinaceous breasted pipit A. roseatus, Common roosefinch Carpodacus erythrinus, and nutcracker Nucifraga carvocatacetes. Species richness was found to be highest in temperate forests, with a significant decline in richness as elevation increased. Eight species of birds found in the area are endangered viz. Monal pheasant (Lophophorus impejanus), Koklas Pheasant (Pucrasia macrolopha), Western Tragopan (Tragopan melanocephala), Himalayan snowcock (Tetraogallus himalayensis).

Some endangered and threatened birds of the park are Himalayan golden eagle (Aquila chrysaetos daphnecea), Eastern steppe eagle (Aquila rapax nipalensis), Black eagle (Ictinactes malayensis perniger), Himalayan bearded vulture (Gypaetetus barbatus), Himalayan snowcock (Tetraogallus himalayensis himalayensis), Western tragopan (Tragopan melanocephalus), Himalayan monal pheasant (Lophophorus impejanus), Koklas pheasant (Pucrasia macrolopha macrolopha).

27 species of butterfly from 6 families were reported during May-June 1993, including Common yellow swallowtail Papilo machaon, Common blue apollo Parnassius hardwickei, Dark clouded yellow Colias electo, Queen of Spain Issoria Iathonia, and Indian tortoiseshell Aglais cashmirensis have been recorded in the
For the extension of a property or the inclusion of additional criteria a re-submission of the property may be considered. This might be regarded as necessary in order to recognize cultural values of a natural World Heritage property, or vice-versa, become desirable following the substantive revision of the criteria by the World Heritage Committee or due to better identification or knowledge of specific outstanding universal values of the property. Should a re-nomination of the property be considered? YES / NO  

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If YES, please explain:  
Proposal has already been submitted to include Valley of Flowers in the NDBR World Heritage Site list through cluster approach.

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Are the borders of the World Heritage property and its buffer zone (still) adequate to ensure the protection and conservation of the property's World Heritage values? YES / NO  

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If NO, please explain why not, and indicate what changes should be made to the boundaries of the property and / or its buffer zone (please indicate these changes also on a map to be attached to this report).

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Is the State Party actively considering a revision of the property boundaries or the buffer zone? YES / NO  

The property boundary does not need any revision. The buffer zone boundary need revision.

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If YES, indicate what is being done to that end:  
Proposal has again been sent to the UNESCO to include 524.5 sq km area outside the buffer zone to be included as transition zone in 2002.

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If the space on the Questionnaire is not sufficient, please continue on a separate page, clearly labelling the answer with the corresponding number of the question (e.g. 006).
II.3. Statement of authenticity / integrity

Have the World Heritage values identified above been maintained since the property’s inscription?

**YES**

If NO, please describe the changes and name the causes:

**N.A**

What was the evaluation of the authenticity / integrity of the property at the time of inscription? (Please quote from the ICOMOS / IUCN evaluation):

"The Nanda Devi Basin supports a range of habitats that have remained pristine. Not so much due to vigilance on the part of the authorities but because of their remoteness and difficult access. It has always been free from any permanent human settlement. The alpine pastures of the 'Outer Sanctuary' used to be grazed by livestock but this has been stopped, together with all other forms of Human activity including mountaineering and trekking.

A preliminary management plan for the national park was drafted in September 1986 but it awaits sanctioning by the Chief Wildlife Warden of Uttar Pradesh. Included in this document is the recommendation to re-open the area to visitors under certain condition. Not only would this ameliorate local antagonism towards the present cessation of trekking but would be a source of income for a significant proportion of villagers in the neighborhood. but it would also act as a deterrent to poachers.

The present Level of management is judged to be inadequate. Staffing is sufficient but policing is restricted to the periphery of the national park. It appears that none of the staff has visited beyond Dharansi, some 14 Km. inside the boundary since the closure of the national park in 1983. `Thus, nothing is known about the present status of the wildlife within the " Inner Sanctuary' Where it is reliably reported, poachers are operating. Some staff have been trained in mountaineering but they lack the necessary equipment to fix ropes along the several dangerous sections of the trail into the 'Inner Sanctuary'.

With the closure of the national park to livestock, changes to the previously grazed pastures of the 'Inner sanctuary can be expected to precede any increase in wild herbivore populations. Such changes need to be monitored closely as they are unlikely to be all positive."

Have there been changes in the authenticity / integrity since inscription?

**YES**

If YES, please describe the changes to the authenticity / integrity and name the main causes?

The monitoring report transpires that there have been remarkable positive changes in to the authenticity /integrity in the past 20 years of intensive protection and management.

A well approved management plan has been under operation since 1988-89. This management plan takes care of the whole Nanda Devi Biosphere Reserve - both the core and the buffer zone. Based on the guidelines set in the overall plan, Annual Plan of operation (APO) is prepared to take care of habitat management, protection and patrolling aspects. An outline of APO for the year 2001-02 and APO for the year
2002-03 are attached as Annexure – II.

The inner sanctuary has remained closed for general trekking and mountaineering activity, but regular scientific monitoring and evaluation exercises on the state of biodiversity is taken up by a joint team of scientists from different disciplines the Scientific Institutions like Wildlife Institute of India and G.B.Pant Institute of Himalayan Environment & Development, Almora after every ten years since 1983. In all these exercises the staff and officers of Nanda Devi National Park accompanies the study team inside the park. Intermittent study team do also go into the park for some specific studies which is not the part of the above exercise.

The staff do patrolling inside the park during summer months in a group. The staff of the park has gone several times up to the base camp and north inner sanctuary. General patrolling exercises although in a very regulated and conservative manner also takes place upto base camp of Nanda Devi in the summer months and frequently up to Dibrugetha and Ramani. Two of the staff members, Sri Trilok Singh Bisht and Sri Man Singh Rana are well experienced mountaineers and they have scaled up to the height of 26,000 feet not only on Nanda Devi but also on several other peaks of the NDBR. Some of other parks Forest Guards are very good trekkers and they regularly go inside the inner sanctuary along with the intermittent study teams. So it is not right to say that nothing is known about the inner sanctuary and poachers are active. Very good well documented information are available about the inner sanctuary. The survey results of the past monitoring exercises is attached in Annexure IV.

High altitude gears have been purchased for almost all the staff and they take these gears along with them. However sophisticated and modern mountaineering equipments and surveillance equipment, night viewing devices and powerful digital cameras are still required for better protection and documentation measures.

The live stock grazing of the village Lata & Tolma had been in operation only up to Dibrugeta. The inner sanctuary was always free from grazing. So far stoppage of grazing upto Dibrugeta have led to positive changes in the flora and fauna composition over the last 20 years. All these changes are being regularly monitored and documented.

Are there (further) changes foreseeable to the authenticity / integrity of the property in the near future? YES / NO 026

If YES, please explain and indicate how these changes might affect the World Heritage values of the property: N.A 027

II.4. Management

How could the arrangements for the protection and the management of the property best be defined (more than one indication possible)?

Legal ( * )
Contractual ( )
Traditional ( ) 028
Please describe and assess the implementation and effectiveness of these arrangements for the preservation of the values described under item II.2 at the national, provincial and/or municipal level:

1. The Central Wildlife protection laws which are very strict and stringent and are being implemented by the provincial Government with all success. As such all the natural values for which this park was inscribed in the world heritage list are preserved well. The Wildlife Protection Act 1972 (1991 amendment) have moved towards greater protection of wild animal by activating public forum and enhancing punishments for violation. Section 50 to 51 of this Protection Act which potentially helps to protect this World Heritage site at local level is attached as annexure–V. Local people respect the Wildlife Protection Laws.

2. The participation of the local people are also being ensured through awareness, education and mobilisation of community support for wildlife protection, through their active involvement in eco-tourism and through promotion of environment friendly economic development activities. Funding under MAB Project by UNESCO and Eco Development programme funded by World Bank have helped to accelerate this. All these are being achieved through the implementation of the management plan of the NDBR.

In general terms, can this legislative, contractual and/or traditional protection be considered sufficient? YES / NO

YES

Please explain:
As stated above the Forest Protection and Wildlife Protection Laws are quite stringent and people respect it. Yet since local people are not being alienated through these laws but they are being increasingly involved in the protection and implementation of the park management plan. All the local communities of the villages adjacent to the park Tolma, Lata, Reni, Peng and Phagti have great reverence for Nanda Devi Peak whom they worship as goddess.

Provide a list and summaries of laws and regulations concerning cultural and natural properties protection and management (including extracts of relevant articles from the Constitution, Criminal Law, Law/Regulations on Land-use, Environment Law and Forestry Law, amongst others). Please also attach any documentation available concerning these points:
2. Indian Forest Act 1927 (in the buffer area)

Describe the administrative and management arrangements that are in place for the property concerned, making special mention of the institutions and organisations that have management authority over the property as well as of the arrangements that are in place for the coordination of their actions:

The park is being managed by a field manager (locally called Divisional Forest Officer) who's office is situated in Joshimath at a distance of about 25 Km. From the park. The D.F.O is supervised by a Conservator of forests quartered at Gopeshwar. All the protected areas of the State Uttaranchal is headed by an administrator who is called Chief Wildlife Warden of the state of Uttaranchal. All these officers belong to the Forest Department of Uttaranchal and the State Govt. of Uttaranchal has sole authority over the property.
Please indicate under which level of authority the property is managed:

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<th>Level of Authority</th>
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<td>Other (please describe):</td>
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Please provide the full name, address and phone/fax/e-mail of the entity(ies) directly responsible for the management (conservation, preservation, visitor management) of the property:

- **Arup Kumar Bannerjee**, (Field Manager)
- Divisional Forest Officer
- **Nanda Devi National Park Forest Division**
- Joshimat.
- District - Chamoli
- Uttarakhand, INDIA.
- Phone & Fax - 91-1389-22179

Is it necessary to revise the administrative and management arrangements for the property? **YES / NO**

If YES, explain why this is the case: **N.A**

Is there a management plan for the property? **YES / NO**

If YES, please summarise, indicating if the plan is being implemented and since when:

- The plan is being implemented since 1988-89. A extract of management plan with Annual Plan of Operation (APO) for 2001-2002 and 2002-2003 is enclosed in Annexure - II.

Please report on legal and administrative actions that are foreseen for the future, to preserve the values described under item II.2 (e.g. passing of legislation, adjusting administrative and management arrangements, implementing or drawing up of a (new) management plan, etc.):

- The existing legislations are sufficient to preserve the property. Administrative and Management arrangements are also appropriate. The existing management plan is being revised as a Landscape Plan for a period of ten years. A new transition zone has been identified to be carved out outside the buffer zone to provide more safety cushion to the core area of the NDBR.

Please provide detailed information, particularly in cases where changes have occurred since the inscription of the property, on the following matters:

- **Conservation**
  - Make reference to all major interventions at the property and describe its present state of conservation:
  
  As stated above strict conservation is being practiced since the inscription of the property and natural values of the property has further improved.
• Ownership

Make reference to all major changes in ownership of the property and describe the present state of ownership:

The property belongs to the Provincial Govt. of Uttaranchal and no change of ownership has since taken place.

Please, give a detailed description of the staffing of the site:

The property is being managed by One Divisional Forest Officer (Site Manager), 1 Range Officer, 3 Dy Range Officer, 10 Foresters and 44 Forest Guards/ Wild Life Guards are manning the field. The office of Divisional Forest Officer is headquartered at Joshimath is managed by 2 Senior Clerk, 1 Junior Clerk, 2 Oderlies, 1 Dak Runner and 1 Driver. Thus, altogether this site is being managed by 56 officers and staff including the DFO at the field level. The site manager works under the supervision of Conservator, Nanda Devi Biosphere Reserve headquartered at Gopeshwar who in turn reports administratively to Chief Wildlife Warden, Uttaranchal.

Is the staffing level sufficient for adequate management of the property? YES / NO

No

If NO, what should be done to improve the situation?

The park management will need at least 1 Assistant Conservator of Forests, 2 additional Range Officers and 15 additional Forest Guards/ Wild Life Guards to man this park properly. The site office also needs at least 2 more Senior Clerk and 2 more Junior Clerk to manage it properly.

Does the staff need additional training? YES / NO

YES

If YES, what are the training needs for your staff?

The Staff needs special training on the following aspects.

1. Communication techniques.
2. Intelligence gathering
4. Conflict Resolution
5. Eco/ Nature tourism.
6. Latest census techniques for high altitude elusive animals.
7. Rock climbing
8. Use and maintenance of latest equipments of surveillance (wireless), mountaineering and fire arms.

Few of the above trainings are organised under World Bank Funded Eco-Development Project but frequency, quantum and quality of trainings needs to be improved.
Describe the funding and financial situation of the property, indication sources, level and regularity of financing:

**Funds are provided by the Ministry of Environment and Forest, Govt. of India annually under**
(a) **Development of National parks and Sanctuaries Scheme**, (b) **Man and Biosphere Project**, (c) **Fire Protection Scheme**. This mainly covers the habitat management, protection and conservation arrangements, compensation for damage against wild animals, research, monitoring, capacity building and livelihood improvement of the communities.

Funds are also being provided by the **State Government of Uttaranchal** which mainly covers the salary of the staff and habitat management through plantation programmes in the buffer area and maintenance of the infrastructure. The funds released from the **District Plan** are mainly used for infrastructure maintenance and communication facility.

Is the available funding sufficient for adequate management of the property? **YES / NO**

Considering the future planning, the present funding support will be inadequate.

If NOT, describe the financial resources that would be required for the management of the property:

**The funds will be mostly required for:**

1. Habitat management in the core and buffer zone of the Park
3. Procuring high altitude gears for surveillance.
4. Livelihood Improvement of the communities in the buffer zone.
5. Communication equipments and other essential infrastructures.
6. Compensation for damage caused by the wild animals.

**Indicate International Assistance from which the property has benefited:**

- **World Heritage Fund**: No assistance has so far received.

- **UNESCO International Campaign**:
  
  Fund is being received under UNESCO's Man and Biosphere Project.

- **National and/or regional projects of UNDP, the World Bank or other agencies**:
  
  The World Bank funded forestry project of Uttaranchal has provided funds to implement the Eco Development programme in the 14 villages of NDBR.

- **Bilateral co-operation**:

If the space on the Questionnaire is not sufficient, please continue on a separate page, clearly labelling the answer with the corresponding number of the question (e.g. 006).
### Describe the IT (computer) equipment of the site and/or management office and assess its effectiveness:

The office of the Site Manager has recently received a P.C for office use under World Bank funded Biodiversity project. The P.C is being increasingly used to prepare various kinds of reports by the Site Manager himself. Two of the office staff are also getting trained. However to increase the efficacy and more and more use by all the staff, at least three more P.Cs are required.

Are you using (multiple indications are possible):

- PC ( *)
- Apple ( )
- Mainframe ( )

Please, give the number of available computers:

- **One**

Does an operational access to the Internet exist?

- **Yes / No**

   - Not at present but the facility will be available within this year.

### Is e-mail used for daily correspondence?

- **Yes / No**

   - **No**

### Is there a Geographical Information System (GIS) for the site?

- **Yes / No**

   - **No**

   - If YES, what software do you have and how is the GIS used?

   - N.A

### List scientific studies and research programmes that have been conducted concerning the site:

1. **Status of Mammals in Nanda Devi National Park** - By S.Satya Kumar, Wildlife Institute of India.
3. **The Butterflies of Nanda Devi** - Captain Aswin Baindur, Cops of Engineers Army.
4. **Conservation, Status of forest in the buffer Zone** - Ajay Rastogi, W.W.F of India.
6. **Expedition to Nanda Devi Floristic Analysis** - B. Balodi, Botanical Survey of India.
Describe financial and human resource inputs for the research programmes and or facilities:

Research Programmes are now being conducted by various institutes under the aegis of Ministry of Environment and Forests. Biodiversity monitoring is conducted after every ten years exercise of Wild Life Institute of India, Salim Ali Centre for Ornithology, Natural History and G.B. Pant Institute of Himalayan Environment and Development and the State Forest Department.

Describe how the information / results are disseminated?

A copy of the all results and conclusions is sent to the Site Manager and also to the Chief Wildlife Warden of Uttaranchal. The findings are discussed through special seminars in Wildlife Institute of India where the field practitioners are also invited to share the view.

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<th>Question Number</th>
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<td>064</td>
<td>Describe financial and human resource inputs for the research programmes and or facilities:</td>
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<td>065</td>
<td>Describe how the information / results are disseminated?</td>
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Are there any visitor statistics for the site? YES / NO

Are there any visitor statistics for the site? YES / NO

General Visitors are not allowed to go inside the site as such statistics is not maintained. After listing in the world heritage list, so far three major expeditions inside the core zone (up to the inner sanctuary) has gone (in 1993, 2001 & 2002). In these expeditions about 100 persons have so far gone (this figures include the number of porters and guides and forest personnel who have accompanied the scientists and monitoring staff/ officers/ deputed/nominated persons). Since from this year Eco tourism in the Buffer zone is now being encouraged in big way, statistics of all the trekkers and mountaineers and the number of porters helpers / guides are being maintained at the Site Managers office.

If YES, please summarise the statistics and attach to this report: N.A

What visitor facilities do you have at the property?

As stated above, general visitors are not allowed to go inside the park area, as such no government visitor facility exists at present. However for scientific expeditions and for routine monitoring works one three room hut with attached toilet is available at the periphery of the park in Lata Kharak. This hut is being also provided to the trekkers who want to trek up to Lata Kharak from Lata to see the stately Nanda Devi peak and to see the splendid view of the inner sanctuary.

What visitor facilities are you in need of?

Since there is a future plan to encourage eco-tourism in the buffer as well as in the core area of the Park, the Park authorities need to develop infrastructure facilities, equipments and build the capacity of the communities for value addition of services and commodities. All these will cater to the visitor facilities. The orientation and skill development of park management and the communities will be needed to bring in quality participation for sustainable eco-tourism in the village institutions.

Is a public use plan (tourism / visitor management plan) in existence for the property? YES / NO

The tourism plan of NDBR has already been prepared. This gives the list of the peaks, suggested routes, connected villages, halting points and code of conduct for environment friendly tourism. The government of Uttaranchal has framed the eco-tourism policy to take care of sustainable eco-tourism in the area. The tourism plan of NDBR is attached in the Annexure VI.
If YES, please summarise, if NO explain if one is needed:

As mentioned in 070

Indicate how the property’s World Heritage values are communicated to residents, visitors and the public (please attach examples of leaflets, videos, posters etc. and print-outs and/or the address of a web-page):

The values are communicated through various ways. Some of them are as under:

1. Through educational programmes in the schools specially during World Environment Day (5th June), Van Mahotsav (1-7 July) and Wildlife Conservation Week (1-7 Oct).
2. Through illustrative hoardings on the roads and highways.
3. Through posters, Leaflets and Calendars. (FEW COPIES ARE ATTACHED)
4. Through slide shows and talks in the schools, colleges and in village level decentralised trainings.
5. Through holding essay, debate and poster and slogan preparation competitions.

Are there educational programmes concerning the property aimed at schools? YES / NO

YES

If yes, please describe:

As stated in answer of question 072, various types of educational and motivational programmes are held throughout the year and reading materials are also distributed in the schools. Apart from this, one hoarding in front of each junior high school level school has been affixed and on this hoardings prize winning slogans developed by the school children themselves have been displayed.

What role does World Heritage inscription play for the site concerning the visitor number, the research programmes and/or the awareness building activities?

It plays a great role in signifying the importance of the area. NDNP is a 'Control Site' for ecologists for comparative studies in Western Himalayas for alpine and subalpine region. Inscription of the property as world heritage has also helped to spread the awareness about importance of conservation and also the importance of care and share (In the buffer). Researchers of various universities are also getting more and more interested to do various ecological and geological research inside the park. Very recently (May 2002) research students of Garhwal University under the guidance of Dr. M.S. Bisht (Lecturer) have gone inside the park area for geological research studies.

II.5. Factors affecting the property

Please comment on the degree to which the property is threatened by particular problems and risks, such as development pressure, environmental pressure, natural disasters and preparedness, visitor/tourism pressure, number of inhabitants. Also mention all other issues that you see as problematic.

1. The property due to its unique settings is free from development pressure, environmental pressure, natural disasters and preparedness, visitor/tourism pressure and number of inhabitants.
2. The only issue which is problematic is how to monitor the inner park area in a more effective manner throughout the year due its very peculiar geological settings. It requires very special and highly sophisticated equipments which the park staff at
present lack.

3. Very stringent conservation measures have given rise to the increase in the population of almost all the wild animals not only in the inner sanctuary but also in the buffer area. Fortunately there has not been a single case of man eating by the leopard perhaps due to good population of ungulates and also cattle sheep and goat in the buffer. But there has been an increasing trend of cattle lifting common Leopards and crop raiding by Himalayan black bees and wild boars. This increasing trend can give rise to potential threat due public discontent over the amount of compensation they get from the park authorities. No immediate solution exists because it is just not possible to fence the wilderness areas from the human settlements.

4. The high alpine meadows in the buffer supports many kinds of rare herbs but of late there has been over grazing on these areas due ever increasing cattle and human populations.

5. Despite level best effort to protect the area, illegal poaching of wild animals and illegal extraction of precious medicinal herbs from the high alpines have always remained as a threat which the staff have to combat.

Is there an emergency plan and/or risk preparedness plan for the property in existence? YES / NO

Risk preparedness has been taken care of in the ten years’ management plan which is being prepared.

If YES, please summarise the plan and provide a copy:

The plan is being considered by the state government. Necessary information will be provided once this plan is approved by the state government.

If NO, describe what is being done – and by whom – to counteract the dangers that threaten or may threaten the property:

NA

Indicate areas where improvement would be desirable and/or towards which the State Party is working:

The areas where improvement would be desirable are

1. Habitat management in the core and buffer zone of the Park
2. Research, monitoring and documentation.
3. Compensation for damage caused by the wild animals.
4. Procuring high altitude gears for surveillance.
5. Livelihood Improvement of the communities in the buffer zone.
6. Communication equipments and other essential infrastructures.
7. Development of infrastructure for eco-tourism

The state party has taken all possible measures to address all the above issues. However additional financial resources and state of art technology would be required to maintain the state of conservation.

Give an indication if the impact of the factors affecting the property is increasing or decreasing:

Impact of factors which affect the property is more or less remains the same except one factor that is increasing number of cattle lifting and crop raids and there is over
What actions have been effectively taken, or are planned for the future, to address the factors affecting the property?

**The steps which are at present being taken up are -**

1. **Immediate payment of compensation to the affected parties by the park authorities.** Not a single case of payment of compensation is lying pending at present. A proposal has also been sent to the authorities to revise the amount of compensation.

2. Local people are also being encouraged and being educated to keep their cattle in the sheds and to not leave them open during the night because common leopards being nocturnal in nature are mostly active during the night.

3. **Better high altitude gears are now being provided to the staff for more effective patrolling.**

4. Liaisoning with institute like W.I.I is being maintained for acquiring expertise and undergoing various types of trainings on participatory eco-development, habitat management, intelligence gathering and use of sophisticated gadgets for monitoring and surveillance.

**II.6. Monitoring**

If applicable, give details (e.g. dates, results, indicators chosen) of any previous periodic or reactive monitoring exercises of the property:

**Annual monitoring is extremely difficult task in Nanda Devi because of inaccessibility of the areas so normally monitoring is conducted after every ten years through properly organized expeditions.**

The monitoring has been done in the fixed sites at Dharasi, Dibrugetha, Deodi, Ramani, Sarsopatal and Pathal Khan inside the park. Monitoring system at present consist of recording of presence / absence of flagship species and indicator species.

**First Monitoring** was conducted in 1981-84 by a combined team of scientists and ecologists from Botanical survey of India and Zoological Survey of India. This survey was conducted from June to September for 3 years (167 days) with intermittent gaps. In this monitoring exercise baseline survey to prepare the checklists of flora and fauna existing in Nanda Devi National Park were conducted through basic inventories of plant and animal species.

**Second Monitoring** was conducted in 1993 by a group of natural scientists, ecologists and sociologists from Wild Life Institute of India, Salim Ali Centere for Ornithology and Natural History and B. Pant Institute of Himalayan Environment and Development for a period of two months (52 days).

Monitoring was done for selected flagship species in fauna and maximum species of flora. The second monitoring team further consolidated the benchmark for future study by laying study plots, marking study trails and selecting ridges for future monitoring purpose. The survey results of past monitoring exercises are given as in annexure IV.

Is there a formal monitoring system established for the site? **YES**

If YES, please give details of its organisation:

**Third Monitoring**

The third monitoring exercise would be conducted in June to Sept 2003 by the
same group of scientists from Wild Life Institute of India, Salim Ali Centre for Ornithology and Natural History and G.B. Pant Institute of Himalayan Environment and Development who had conducted the monitoring in 1993.

In 2003 monitoring would be conducted with respect to the following main indicators.
1- Population of indicator species like snow Apollo butterfly.
2- Population of rare endangered plant like Aconite and Mecanopsis (per unit area) of the sample plot.
3- Population of flagship species like snow leopards (per unit effort) and population of its major prey (Blue sheep and musk deer) through population estimation. Snow leopard signs will be studied through snow leopard scatch, scrapes and tracks.
4- Any sign of poaching or illegal collection of herb and poaching of animal will also be recorded.

In 2003 monitoring exercise will also lay sample plots in five patrolling cum monitoring sites in Nanda Devi National Park for annual monitoring by the project staff. All the annual monitoring sites lies at different sites in the periphery of the park.

These sites are at:
1- Dharasi
2- Routi
3- Kalikona
4- Himtoli
5- Guppa Bugujal

A set of Monitoring Performa for regular animal monitoring by the staff is being developed with technical assistance from Wild Life Institute.

This Performa will basically include:
• What to monitor
• When to monitor
• Where to monitor
• How to monitor
• How often to monitor, the selected fauna, flora/indicator species.

The staff will be trained for monitoring. Monitoring will be done under the guidance of Research officers from Wild Life Institute.

II.6. continued

If not already in place, is the establishment of a formal monitoring system planned?

As stated in 085

If YES, please outline the functioning of that system, taking into consideration the key indicators you will be asked to define below (see 089 / 090):

Are there any indicators established for monitoring the state of conservation of the property?

As stated in 085

If YES, please provide up-to-date information with respect to each of the key indicators established and/or used. Care should be taken to ensure that this information is as accurate and reliable as possible, for example by carrying out observations in the same way, using...
similar equipment and methods at the same time of the year and day. Name and describe the key indicators for measuring the state of conservation of this property:

As stated in 085

If NO indicators have been identified and / or used so far, please define key indicators for future use in monitoring:

As stated in 085

Indicate which partners, if any, are involved or will be involved in the regular monitoring exercise:

Regular partner in monitoring exercise is Wild Life Institute of India, Salim Ali Centre for Ornithology and Natural History and B. Pant Institute of Himalayan Environment and Development.

Identify the administrative provisions for organizing the regular monitoring of the property:

In the year 2003 a special provision of budget would be kept under UNESCO's MAB Project to conduct the monitoring exercise. The administrative budget will be kept every year to do regular monitoring of NDNP from five identified sites in the periphery area by the staff under the same project.

Describe what improvement the State Party foresees or would consider desirable in improving the monitoring system:

It would have been better if a separate ecologist with good background of wildlife and social issues would be deputed from Wild Life Institute of India to the site permanently to supervise the regular monitoring activity with the regular staff of NDBR at regular interval.

In specific cases, the World Heritage Committee and/or its Bureau may have already examined the state of conservation of the property and made recommendations to the State Party, either at the time of inscription or afterwards. In such cases the State Party is requested to report on the actions that have been taken in response to the observations or decisions made by the Bureau or Committee. Give details, if applicable:

No such examination has so far taken place after the inscription.

II.7. Conclusions and recommended actions

Please summarise the main conclusions regarding the state of the World Heritage values of the property (see items II.2. and II.3. above):

The Nanda Devi National park the world heritage site has unique topography, climate, and soil and it supports diverse habitat, species, communities and ecosystems. The high percentage of natural (native) and unique (endemic) species, richness and representative ness of the flora and fauna and high diversity of species and communities itself identify the conservation value of the site. The site also have large areas under alpine meadows which harbour high value medicinal and aromatic plants and over 20 alpine communities many of which have remained pristine. More over the area is reputed as one of the most spectacular wilderness in the Himalayas and is dominated by "Nanda Devi Peak which is a natural monument and India's second highest peak. Unlike many other Himalayan areas, it is free from human settlement and has remained largely unspoilt due to its inaccessibility.

Please summarise the main conclusions regarding the management and factors affecting the property (see items II.4. and II.5. above):

If the space on the Questionnaire is not sufficient, please continue on a separate page, clearly labelling the answer with the corresponding number of the question (e.g. 006).
The site is being managed as the core zone of the Nanda Devi Biosphere Reserve management, which takes care of core as well as the buffer. A well approved management plan has been prepared and it is under implementation since 1988-89. Making of Management plan for coming ten years (2003-2012) is in progress. The works which are mainly being taken up are strict patrolling and conservation works in and around the site and eco-restoration / soil conservation works in the adjoining buffer areas and eco development, and income generating activities in the villages of the buffer zone. The people are also compensated for in the event of loss of life or injury by wild animals and in cases of cattle lifting. Capacity building and awareness activities are also part of this plan. In addition to this Eco-Development committees have been set in the nearby villages of the park and these committees are being provide funds directly on the basis of their 5 year self-made micro plan. A separate Annual Plan of Operation is also prepared for the patrolling and need based management (minimum required) activity inside the inner sanctuary.

The factors which threaten the site are not of very serious nature and there are in-fact some problems which the park administration has been facing at present. One of them is how to monitor the inner park area in a more effective and more constructive manner throughout the year and how to keep in check the increasing trend of cattle lifting and crop raiding by common Leopards, Himalayan Black Bears and wild boars. Another problem which the management is facing is that the high alpine meadows in the in the buffer supports many kinds of rare herbs but of late there has been over grazing on these areas due ever increasing cattle.

Give an overview over proposed future action / actions:

The proposed future actions consists of further revising the provisions of the existing management plan and transform it into a landscape plan. This landscape plan will also take into consideration the transition zone of the Biosphere Reserve as well. All the present activities will continue and solutions for better monitoring and means of reduction of man animal conflicts will also be found out with the participation of the local people. Grazing on the alpine pastures in a more regulated way will also be introduced by more involvement and cooperation of the people. More emphasis will be given to make the local Eco development committees self reliant and effective at the grass root level. Nature tourism by involving the local people in the buffer will be given further impetus.

Name the agency responsible for implementation of these actions (if different from 005):

The Uttarakhand Forest Department will be the nodal agency for implementation for all these actions. The central government will continue to provide financial assistance under different externally funded projects and programmes.

Give a timeframe for the implementation of the actions described above:

All the actions as stated above have already been started since year 2001-2002. Improvement in the conservation and protection measure is an ongoing process with ever evolving challenges. No time frame can be fixed for the actions.

Indicate for which of the planned activities International Assistance from the World Heritage Fund may be needed (if any):

Considering the universal value of the site. A management plan has been prepared for a period of 10 years. WHC may consider providing dedicated funds through international funding support for the planned activities.
Are there any contacts with management units of other properties within or outside your country?  

**NO**

If YES, please explain: **N.A**

Please indicate which experience made during the periodic reporting exercise and/or during the on-going conservation / protection efforts of the property could be shared with other States Parties dealing with similar problems or issues:

The experience gained during the periodic monitoring exercise especially on the ongoing conservation and protection efforts of high altitude flora and fauna, habitat management of endangered species, results of research and monitoring exercises in the control site, effort made in ecotourism and conservation measures with the community will be shared within the country and with adjacent countries having similar biogeographical and ecological conditions with similar challenges.

Provide the name(s) and address(es) of organization(s) or specialist(s) who could be contacted for this purpose:

- 1 Indian council of Forestry Research and Education, Dehradun, India.
- 2 Centre for Environment education, Ahmedabad, India.
- 3 Wildlife Institute of India, Dehradun, India.
- 4 Indian Institute of Forest Management, Bhopal, India
- 5 SACON
- 6 BNHS.
- 7 Smithsonian Institute, USA
- 8 New Jersey Wildland trust, UK.
- 9 World Conservation and Monitoring Centre (WCMC), UK.
- 10 Indian Institute of Remote Sensing, Dehradun.
- 11 GB Institute of Himalayan Environment and Development.

II.8. Assessment of the Periodic Reporting exercise for Section II

Was sufficient and adequate information made available to the responsible authorities and individuals during the preparation phase of the Periodic Reporting exercise (information given, meetings etc.)? **YES**

Was the questionnaire clear and did it help to comply with the reporting requirements of the State Party? **YES**

What are the perceived benefits and lessons learnt of the exercise?

The greatest benefit is the re-realisation of the world wide importance of the site and the responsibilities for conserving it for the posterity. This exercise have proved to be a very good periodical self monitoring tool for the park manager. This exercise has importantly helped a lot to create a sense of vision in the park managers for scientific

If the space on the Questionnaire is not sufficient, please continue on a separate page, clearly labelling the answer with the corresponding number of the question (e.g. 006).
management of the World Heritage Site.

Please describe the expected outcome of the Periodic Reporting exercise and the desired follow-up by the World Heritage Committee:

Training workshops and seminars at national and international level will definitely help the site manager to widen the vision for improving the quality of reporting through mutual sharing of ideas and experiences with the other park managers which will ultimately lead to improve the quality of management of the World Heritage Site. Exchanged exposure visits to other World Heritage Site should also be encouraged for wider learnings. It is also expected that the World Heritage Committee will also respond the invitation to visit this unique site of Nanda Devi Biosphere Reserve to appreciate the conservation measures being adopted here and give valuable technical inputs to the site management for further improvement.

II.9. List of the annexes

Annexure- I Topographic Map of Nandadevi Biosphere Reserve.

Annexure- II An extract of Management Plan with APO 2001-02 and APO 2002-03.

Annexure -III Tourism Plan of NDBR.

Annexure -IV Survey result of past monitoring exercises.

Annexure -V Abstract from Wildlife Protection Act (1991 Amendment)
Section 50&51