



Ministry of Environment and Forests  
GOVERNMENT OF INDIA

**GUIDELINES FOR  
ECOTOURISM  
IN AND AROUND  
PROTECTED AREAS**

# 4

## GUIDELINES FOR ECOTOURISM IN AND AROUND PROTECTED AREAS

### PREAMBLE

*Healthy natural ecosystems are critical to the ecological well-being of all living entities, and especially for the economic security of people. Ecotourism has the potential to enhance wilderness protection and wildlife conservation, while providing nature-compatible livelihoods and greater incomes for a large number of people living around natural ecosystems. This can help to contribute directly to the protection of wildlife or forest areas, while making the local community stakeholders and owners in the process.*

*This document lays out a detailed set of framework guidelines on the selection, planning, development, implementation and monitoring of ecotourism in India. Recognising however, that India's wildlife landscapes are diverse, these guidelines are necessarily broad, with specific State Ecotourism Strategies to be developed by the concerned State Governments, and Ecotourism Plans to be developed by the concerned Authorities. These guidelines are enumerated for the States to develop and follow. Based on the same, roles and responsibilities may be framed for various stakeholders.*

*These guidelines are based on the key recommendations of the Tiger Task Force (2005), provisions contained in the Wildlife (Protection) Act, 1972 as amended in 2006, the revised guidelines of the Centrally Sponsored Scheme of Project Tiger and the provisions of the Scheduled Tribes and Other Forest Dwellers (Recognition of Forest Rights) Act, 2006.*

### 1. THE NEED FOR ECOTOURISM GUIDELINES

- 1.1 Ecotourism is defined as 'responsible travel to natural areas that conserves the environment and improves the well-being of local people'<sup>1</sup> Given the conditions in India, we propose that ecotourism includes tourism that is community based and community driven. The aim should to move towards a system of tourism around protected areas which is primarily community based tourism. Such tourism is low- impact, educational, and conserves the ecology and environment while directly benefiting the economic development of local communities.
- 1.2 Most wilderness areas across India are fragile ecosystems that provide a whole host of ecosystem services to local residents and people living downstream, and continue to remain important tourist attractions. However, unplanned tourism in such landscapes can destroy the very environment that attracts such tourism in the first place. Hence, there is a need to move towards a model of tourism that is compatible with these fragile landscapes.
- 1.3 Ecotourism, when practiced correctly, is an important economic and educational activity. It has the scope to link to a wider constituency and build conservation support while raising awareness about the worth and fragility of such ecosystems in the public at large. It also promotes the non-consumptive use of wilderness areas, for the benefit of local communities living around, and dependent on these fragile landscapes.

<sup>1</sup> This is the International Ecotourism Society definition of Ecotourism

- 1.4 In recent years, the mushrooming of tourist facilities around protected areas has led to the exploitation, degradation, disturbance and misuse of fragile ecosystems. It has also led to misuse of the term 'ecotourism', often to the detriment of the ecosystem, and towards further alienation of local people and communities.
- 1.5 These directives and guidelines for ecotourism are applicable to any Protected Areas, Tiger Reserve, including National Parks, Wildlife Sanctuaries, Community reserves, Conservation Reserves, Sacred Groves, or Pilgrimage Spots located within protected areas and forested areas.

## 1.6 PRINCIPLES OF ECOTOURISM IN AND AROUND PROTECTED AREAS

Those who implement and participate in ecotourism activities should practice the following:

- Adopt low-impact wildlife tourism that protects ecological integrity of forest and wildlife areas, secures wildlife values of the destination and its surrounding areas
- Highlight the biodiversity richness, their values and their ecological services to people
- Highlight the heritage value of India's wilderness and protected areas
- Build environmental and cultural awareness and respect
- Facilitate the sustainability of ecotourism enterprises and activities
- Provide livelihood opportunities to local communities
- Use indigenous, locally produced and ecologically sustainable materials for tourism activities

## 2. GUIDELINES FOR DEVELOPING STATE ECOTOURISM STRATEGY

The following sections provide broad framework for each stakeholder

Synergy and collaboration amongst the Central Government, State Governments, Hospitality Sector, State Forest Departments, Protected Area managements, Forest Dwellers and Local Communities and Civil Society institutions is vital for ensuring successful implementation of the guidelines.

### 2.1. State Governments

- 2.1.1 The State-level Ecotourism Strategy must be in tune with the framework of guidelines provided here. Ecologically sensitive land use policies should be prescribed for the landscape surrounding protected areas. Adequate provisions must be made to ensure that ecotourism does not get relegated to purely high-end, exclusive tourism, leaving out local communities. Relevant modifications in State rules and regulations must be carried out in order to ensure adherence to these standards by tourist developers and operators. All States should notify the

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State-level Ecotourism Strategy within one year of notification of these guidelines by the Ministry of Environment and Forests.

2.1.2. The State Government must develop a State-level Ecotourism Strategy – a comprehensive plan to ensure, inter alia.

- Forest and wildlife conservation in ecologically sensitive landscapes including protected areas, critical wildlife corridors
- Local community participation and benefit-sharing
- Sound environmental design and use of locally produced and sustainable materials
- Conservation education and training
- Adequate machinery for monitoring and evaluation of the impact of ecotourism activities
- Capacity building of local communities in planning, providing and managing ecotourism facilities
- Develop appropriate land use and water management planning and regulation for maintaining the ecological integrity of landscape in and around protected areas

2.1.3 No new tourist facilities are to be set up on forest lands. This is in compliance with the Wild Life (Protection) Act, 1972, Forest (Conservation) Act, 1980, and the directives of the Honourable Supreme Court. Conversion of forest rest houses outside protected areas as tourist facilities should be avoided.

2.1.4. The State Government must develop a system to ensure gate receipts should be collected and utilised from Protected Areas by the Protected Area management and is ploughed back for specific purposes, and not go as revenue to the State Exchequer. This will ensure that resources generated from tourism can be earmarked for protection, conservation and local livelihood development, tackling human-wild animal conflict and welfare measures of field staff.

2.1.5 The State Forest Department should be the arbiter in case of any dispute regarding the ecological advisability of any tourism plans, including Protected Area Management, private entity, temple board or community, as the welfare of wildlife and Protected Areas/ biodiversity takes precedence over tourism.

2.1.6 A State Level Steering Committee shall be constituted under the chairmanship of the Chief Minister or a person authorised by the Chief Minister for quarterly review vis-à-vis the recommendations contained in the State-level Ecotourism Strategy. The Chief Wildlife Warden of the State shall be the Member Convener of the said committee. The State Government will decide its composition and rules of procedure. The States shall constitute State Level Steering Committees within a year of notification of these guidelines, and the names of its members shall be put in the public domain. The Committee should have representation from local communities, forest dwellers that live in and around Protected Areas, Tribal Welfare Department, Panchayati Raj Institution and Civil Society Institutions.

2.1.7 As part of the Ecotourism Strategy, the State government should levy a "local conservation fee" as a minimum 10% of turn-over<sup>2</sup>, on all tourist facilities within a minimum 5 km of the boundary of a Protected Area, and identified wildlife corridors / sensitive habitats. This will not apply to small home stay facilities of local resident people, developed under approved ecotourism plan. The rate of fee should be determined by the State Government, and the fund thus collected should be earmarked to fund, human-wildlife conflict management, conservation and local livelihood development, and not go to the State Exchequer as discussed in 2.1.4 above. Each State Government should notify the rate of local conservation fee within a year of notification of these guidelines. The rate of fee shall be revised periodically taking into consideration the cost of operation. The rationale for a local conservation cess should be clearly explained to the public at large, including through clear signage at local tourist facilities. The States shall put in place a transparent mechanism for utilisation of these funds involving the protected area management and ecodevelopment committees.

2.1.8. Financial assistance/ incentives from the local conservation fee can be provided as incentives for communities/individuals who own revenue lands outside protected areas, to convert such lands to forest status.

2.1.9 A Local Advisory Committee (hereinafter referred to as LAC) must be constituted for each Protected Area by the State government. The LAC will have the following mandate:

- To review the Ecotourism Strategy with respect to the Protected Area and make recommendations to the State government
- To ensure site specific restrictions on buildings and infrastructures in private areas in close proximity to core/critical tiger habitat/National Park/Sanctuary or buffer zone, keeping in mind the corridor value.
- To advise local and state government on issues relating to development of ecological-tourism in non-forest areas of ecological- tourism zones etc.
- Regularly monitor (at least half yearly) all tourist facilities falling within 5 km of a Protected Area vis-à-vis environmental clearance, area of coverage, ownership, type of construction, number of employees etc, for suggesting mitigation/retrofitting measures if needed.
- Regularly monitor activities of tour operators to ensure that they do not cause disturbance to animals while taking visitors into the Protected Area.

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<sup>2</sup> The Tiger Task Force Report in 2005 recommended that hotels within a radius of 5 km from the boundary of a reserve must contribute 30 percent of their turnover to the reserve. Further, the hotels can be allowed to claim 100 percent income tax benefit for the same, as incentive.



## 2.1 10. Composition of LAC:

- Divisional Commissioner (Chairman)
- District Collector
- PA Manager (Member Secretary)
- Local Territorial DFO
- Honorary Wildlife Warden (if present)
- Official of State Tourism Department, Tribal Department
- Block Development Officer (1)
- Members of Local Panchayats (2)
- Wildlife scientist (1)
- Representative of the tourism sector
- Local conservationists (2)
- Representative from a local, registered Civil Society Institution (1)
- In case of North Eastern States, the traditional village councils should be recognized as equivalent to Panchayat Members, wherever such councils exist.

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- 1 For Tiger Reserves, the Tiger Conservation Foundation should be the overseeing authority and should include members that are not represented in the Tiger Conservation Foundation.
  2. The Detailed Terms of Reference and tenure of individual Local Advisory Committee will be determined at the State level.

## 2.2. Protected/Forest Area Managers

The Chief Wildlife Warden of the State must ensure that each Protected Area prepares an ecotourism plan, as part of the Management Plan/Tiger Conservation Plan. A site-specific Ecotourism Plan for each Protected Area must be approved by the State government within a year of its submission and put in the public domain, including in the local language. Prior to this approval, no new infrastructure for tourism should be allowed to be developed.

The Ecotourism Plan shall, inter alia, include a monitoring mechanism, estimated carrying capacity (model mechanism to calculate carrying capacity, provided in Annexure-I), tourism zones, and demarcation of the area open to tourism on the basis of objective, scientific criteria.

- 2.2.1 Each Protected/Forest Area must develop its own Ecotourism Plan, as part of its Tiger Conservation Plan, Management Plan, or Working Plan, and should be duly approved by the Chief Wildlife Warden of the State, and the National Tiger Conservation Authority (where relevant). The plan should be consistent with the State Ecotourism Strategy and must be approved by the LAC and the State Government. An ecotourism plan for each PA must be notified within a year of notification of these guidelines, and put in the public domain, in the local language also.

The plan should.

- i) Identify (using GIS) and monitor the ecologically sensitive areas surrounding PAs, in order to ensure the ecological integrity of corridor/buffer areas, and prevent corridor pinching/destruction
- ii) Assess carrying capacity of the Protected Area, at three levels: physical, real and effective/permisible carrying capacity of visitors and vehicles (See Annexure-I). On the lines of the illustrative calculation provided for vehicular tourist visitation, carrying capacity needs to be computed on a site specific basis for tourist visitation involving elephant/boat/foot travel.
- iii) Set a ceiling level on number of visitors allowed to enter a Protected Area at any given time, based on the carrying capacity of the habitat.
- iv) Indicate the area open to tourism in the reserves to be designated as 'eco-tourism zone'
- v) Develop a participatory community-based tourism strategy, in collaboration with local communities, to ensure long-term local-community benefit-sharing, and promotion of activities run by local communities
- vi) Develop codes and standards for privately-operated tourist facilities located in the vicinity of core/critical wildlife habitats, eco-sensitive zones or buffer areas, with a view to, inter alia, ensure benefit and income to local communities.
- vii) Develop monitoring mechanisms to assess impact of tourism activities on the wildlife and its habitat
- viii) Develop generic guidelines for environmentally acceptable and culturally appropriate practices, and for all new constructions
- ix) Set up lists of Do's and Don'ts for visitors

2.2.2. In the case of human animal conflicts, compensation should be paid within the period as per Citizen's Charter, apart from immediate payment of ex gratia.

2.2.3 All ecotourism activities should take place only in delineated 'ecotourism zones' delineated in the ecotourism plan.

2.2.4. There is a need to adhere to the amended provisions of the Wildlife Protection Act (1972) in terms of core/critical tiger habitat<sup>1</sup> or critical wildlife habitat<sup>2</sup> which have defined the need to provide inviolate core and buffer areas (designed for coexistence) in tiger reserves. Given that tourism has been happening in these core/critical areas, there is a need for phasing this out and moving it to peripheral/buffer areas to benefit local communities. As an interim measure, the following norms maybe be adhered to in the context of community based ecotourism activities, and included in the ecotourism plan of the Protected Area.

<sup>1</sup> As defined in Section 38(v) of the Wildlife (Protection) Act, 1972 (as amended in 2006) the Act clearly defines core/critical wildlife habitats as such areas that need to be kept inviolate for tiger conservation without affecting the rights of scheduled tribes or forest dwellers. The Act also defines the buffer or peripheral area consisting of the area peripheral to Critical Tiger Habitat or Core Area where a lesser degree of protection is required to ensure the integrity of the CTH. . and which aim at promoting co-existence between wildlife and human activity with due recognition of the livelihood, developmental, social and cultural rights of the local people.

<sup>2</sup> As defined in Sections 2 and 4 of 'The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006'

**For national parks/sanctuaries<sup>3</sup>/core/critical tiger habitats:**

- a) Larger than 500 sq.km of core/critical tiger habitat or critical wildlife habitat, a maximum of 20% (not exceeding the present practice) of such areas may be permitted for regulated community based ecotourism access subject to the condition that 30% of the surrounding buffer/fringe area should be restored as a wildlife habitat in 5 years.
- b) Smaller than 500 sq.km, a maximum of 10% (not exceeding the present practice) of such areas may be permitted for regulated ecotourism access, subject to the condition that 20% of the surrounding buffer/fringe area should be restored as a wildlife habitat in 5 years.
- c) The demarcation of the buffer area must be done in accordance with the provisions of the relevant sections 2 and 4 of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 and Wildlife (Protection) Act, 1972, which provide for full settlement of rights and process of consultation with local communities.

2.2.5 Any core area in a Tiger Reserve from which relocation has been carried out, will not be used for tourism activities. Forest dwellers who have been relocated will be given priority in terms of livelihood generation activities related to community-based ecotourism in the Protected Area from which they have been relocated. Protected Area Management will make a special effort in this regard and a periodic review to ensure compliance will be undertaken.

2.2.6. Tourism infrastructure must conform to environment-friendly, low-impact architecture, including solar energy, waste recycling, rainwater harvesting, natural cross-ventilation, reduced use of asbestos, controlled sewage disposal, and merging with the surrounding habitat. Violations of these norms will be appropriately dealt with by the LAC.

The District Revenue and Protected Area authorities must ensure that all facilities within a 5 km radius of core/critical wildlife habitats/protected areas/reserves must adhere to all environmental clearances, noise pollution norms, and are non-polluting, blending in with surroundings. Severe penalties must be imposed for non-compliance.

2.2.7 Within five years, permanent facilities located inside of core-critical tiger habitat/critical wildlife habitat, which are being used for wildlife tourism should be phased out.

2.2.8. All tourism facilities located within five kms. of a Protected Area must adhere to noise pollution rules under 'The Noise Pollution (Regulation and Control) Rules', 2000, and 'The Noise Pollution (Regulation and Control) (Amendment) Rules', 2010 issued by the Ministry of Environment and Forests.

<sup>3</sup> As per the provision of the Wildlife (Protection) Act, 1972, a review of this should be undertaken within a period of five years to ensure that the phase out is being implemented.



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2.2.9 There shall be a complete ban on burying, burning or otherwise disposing non-biodegradable or toxic waste in and around the protected area.

2.2.10. To avoid the number of visitors/vehicles exceeding carrying capacity, protected area managers must establish an advance booking system to control tourist and vehicle numbers. Rules of booking must be transparent and, violators must be penalized.

2.2.11 Protected Area authorities must delineate an adequate and appropriate area for the visitor facility outside the Protected Area.

2.2.12. In the case of Tiger Reserves, ecotourism should be under the oversight of the respective Tiger Conservation Foundations for each tiger reserve, to enable Eco Development Committees/ Village Forest Committees/ forest cooperatives to strengthen the institutional framework through a Memorandum of Understanding.

### **2.3. Tourist facilities/ Tour operators**

2.3.1 Tourism infrastructure must conform to environment-friendly, low-impact architecture; renewables including solar energy, waste recycling, water management, natural cross-ventilation, no use of asbestos, zero discharge of sewage, minimal lighting, and merging with the surrounding landscape.

2.3.2. All tourist facilities falling within 5 km of a protected area must be reviewed regularly by the Local Advisory Committee vis-à-vis environmental clearance, area of coverage, ownership, type of construction, number of employees, etc, for suggesting mitigation/retrofitting measures if needed.

2.3.3 All tourist facilities, old and new must aim to generate at least 50% of their total energy and fuel requirements from alternate energy sources that may include wind, solar and biogas.

2.3.4. The use of wood as fuel shall be prohibited, except for campfires for which wood must be procured from State Forest Department/Forest Development Corporation depots.

2.3.5 In order to allow free passage to wildlife, development should be sensitive to the conservation of flora and fauna, and the corridor value of the area.

2.3.6. Tourist facilities/tour operators must not cause disturbance to animals while taking visitors on nature trails.

### **2.4. Temple/Pilgrimage Boards**

2.4.1 Pilgrim sites located inside Protected Areas must be in accordance with the Forest Conservation Act, 1980, Wildlife (Protection) Act, 1972 and the Environment Protection Act, 1986 to prevent any further expansion. This should be periodically reviewed by the LAC.

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- 2.4.2. All transit camps and places of stay for such pilgrimage must be restricted to nominated days in a year. The protected area managers should work with the temple authorities to develop a system for controlling the number of pilgrims so as to maintain the ecological integrity of the areas. This mechanism should be developed within three years of the notification of these guidelines.
- 2.4.3. All rules that apply to tourism facilities including noise, building design, use of alternate energy and free passage to wildlife will apply to such pilgrim facilities.
- 2.4.4. Temple boards must negotiate terms of revenue sharing with local communities, and channel a minimum of 10 percent of gross revenue collected into development of local communities through the Gram Sabha.
- 2.4.5. The tourist operators/drivers and temple controlling authorities to be given an exposure on the value of forest ecosystem and their ecological services and alongwith the do's and don'ts during visits to forests protected areas.

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## ESTIMATION OF CARRYING CAPACITY

(Illustrative Calculation for vehicle based tourist visitation, Example: Kanha Tiger Reserve)

(a) Physical Carrying Capacity (PCC): This is the "maximum number of visitors that can physically fit into a defined space, over a particular time" It is expressed as:

$$PCC = A \times V/a \times Rf$$

Where, A = available area for public use

V/a = one visitor  $M^2$

Rf = rotation factor (number of visits per day)

In order to measure the PCC to Kanha, the following criteria must be taken into account:

Only vehicular movements on forest roads are permitted

The "standing area" is not relevant, but "closeness" between vehicles is important

There is a required distance of at least 500 m ( $1/2$  km.) between 2 vehicles to avoid dust (2 vehicles / km.)

At least  $3 \frac{1}{2}$  hours are needed for a single park excursion

The protected area is open to tourists for 9 months in a year and 9 hours per day

Linear road lengths within the tourist zone are more relevant than area, and the total lengths are:

Kanha	107.20 km.
Kisli	72.56 km.
Mukki	103 km.
Total	282.76 or 283 km.

Due to constant vehicular use, the entire road length of 283 km. is prone to erosion, out of which around 90 km. is affected more

$$\text{Rotation Factor (Rf)} = \frac{\text{Opening}}{\text{period} \times \text{Average time of one visit}}$$

$$\text{Physical Carrying Capacity (PCC)} = 283 \text{ km.} \times 2 \text{ vehicles / km.} \times 2.6$$

$$= 1471.6 \text{ or } 1472 \text{ visits / day}$$

(b) Real Carrying Capacity (RCC): RCC is the maximum permissible number of visits to a site, once the "reductive factors" (corrective) derived from the particular characteristics of the site have been applied to the PCC. These "reductive

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factors" (corrective) are based on biophysical, environmental, ecological, social and management variables.

$$RCC = PCC - Cf_1 - Cf_2 - \dots - Cf_n$$

Where Cf is a corrective factor expressed as a percentage. Thus, the formula for calculating RCC is:

$$RCC = PCC \times \frac{100 - Cf_1}{100} \times \frac{100 - Cf_2}{100} \dots \frac{100 - Cf_n}{100}$$

Corrective Factors are "site-specific", and are expressed in percentage as

$$\text{below: } Cf = \frac{M_l}{M_t} \times 100$$

Where: Cf = corrective factor  
 $M_l$  = limiting magnitude of the variable  
 $M_t$  = total magnitude of the variable

- (i) Road erosion: Here the susceptibility of the site is taken into account.

Total road length = 283 km. ( $M_t$ )  
 Medium erosion sink = 50 km. (weighting factor 2)  
 High erosion risk = 40 km. (weighting factor 3)  
 $M_l = 50 \times 2 + 40 \times 3 = 100 + 120 = 220$  km.  
 $M_t = 283$  km.

$$Cfe = \frac{220}{283} \times 100 = 77.8 \text{ or } 78\%$$

- (ii) Disturbance to Wildlife: Here, species that are prone to disturbance owing to visitation are considered. The Central Indian barasingha, a highly endangered, endemic species found only in Kanha has a courtship period of about 1 month in winter, during which it is extremely sensitive to disturbance. Likewise, the peak courtship activity for spotted deer lasts for two months before the onset of regular monsoon. As far as tigers are concerned, newborns are seen between March and May and also during the rains; hence an average value of two months in a year can be considered as the matter phase.

$$\text{Corrector Factor (Cf)} = \frac{\text{limiting months / year}}{12 \text{ months year}} \times 100$$

Corrective Factor for  
barasingha

$$Cf w_1 = \frac{1}{9} \times 100 = 11.1\%$$



Corrective Factor for spotted deer

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$$Cf w_2 = \frac{2}{9} \times 100 = 22.2\%$$

Corrective Factor for tiger

$$Cf w_2 = \frac{2}{9} \times 100 = 22.2\%$$

$$\begin{aligned} \text{Overall corrective factor for disturbance of wildlife in Kanha National Park} &= Cf w \\ &= Cf_1 + Cf_2 + Cf_3 \\ &= 11.1 + 22.2 + 22.2 = 55.5 \text{ or } 55\% \end{aligned}$$

- (iii) Temporary Closing of Roads. For maintenance or other managerial reasons, visitation to certain roads may be temporary restricted within the Protected Area. The Corrective Factor in this regard is calculated as:

$$Cf_i = \frac{\text{limiting weeks / year}}{\text{total weeks / year}} \times 100$$

In Kanha, an average value of 2 limiting weeks per year may be considered as the "limiting weeks", and thus the corrective factor works out to:

$$Cf_i = \frac{2 \text{ weeks / year}}{36 \text{ weeks / year}} \times 100 = 5.5\%$$

Computation of RCC

$$\begin{aligned} RCC &= 1472 \times \frac{100-78}{100} \times \frac{100-55}{100} \times \frac{100-5.5}{100} \\ &= 1472 (0.22 \times 0.45 \times 0.95) \\ &= 138.4 \text{ or } 138 \text{ visits / day} \end{aligned}$$

(c) Effective Permissible Carrying Capacity (ECC): ECC is the maximum number of visitors that a site can sustain, given the management capacity (MC) available. ECC is obtained by multiplying the real carrying capacity (RCC) with the management capacity (MC). MC is defined as the sum of conditions that protected area administration requires if it is to carry out its functions at the optimum level. Limitations in management like lack of staff and infrastructure limit the RCC.

For Kanha, owing to the paucity of staff the MC is around 30%. Hence,  $ECC = 138 \times 0.30 = 41.4$  or 40 vehicles / day

Thus, the Effective Permissible Carrying Capacity on any single day is only 40 vehicles, which should be allowed entry as below:

(Forenoon) = 25 vehicles (inclusive of both entry points)  
(Afternoon) = 15 vehicles (inclusive of both entry points)

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During peak season (winter months/summer holidays), the staff strength may be increased (only 10%) by deploying "special duty" personnel, this would enhance the ECC to 55 vehicles per day. Further, increase in the number of vehicles would lead to deleterious effects on the habitat.

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