

Chapter 18

Ecotourism in Rajasthan: Prospects and Perspectives

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Abstract This chapter touches upon the newly emerging concepts of ecotourism and heritage tourism. The state harbors a wealth of mesmerizing palaces and forts, World Heritage sites and hotels, vibrant cultural traditions, and fairs and pilgrimage sites which attract a large number of national and international tourists. In addition, the national parks and tiger reserves, world famous heronry, colorful desert, and wildlife sanctuaries located in diverse habitat draw the attention of wildlifers and nature lovers from around the world. Potential ecotourism sites still in wilderness and unexploited by the rapid pace of civilization have been selected and listed district-wise on the basis of forest areas with rich biodiversity, natural scenic beauty, waterfalls and springs, historical buildings, palaces, forts, and temples. In this chapter, authors have mentioned about the proposed activities and value addition being brought through camping and wide publicity as major strategies for developing these ecotourism sites. The prospects in the Hadoti region of southwestern Rajasthan as a potential ecotourism attraction with birding sites and adventure tourism are also

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particularly described. To this end, the emphasis of the government has been on community-based ecotourism, encouraging public–private sector participation, and infrastructural development. The major stakeholders of the plan are forest, tourism, and finance departments of the state government, local communities, private sector, NGOs, and academic institutions. Economic benefits to local people and tribal youth, building public support for conservation, and encouraging conservational efforts are some of the key advantages of ecotourism which are described in the text. The authors have looked into the policies and prospects of wildlife tourism in Rajasthan. The issues and problems related to implementation of the Ecotourism Policy by the government along with the formation of an “Ecotourism Advisory Bureau” also find a prominent place in the chapter.

Introduction

Ecotourism also known as ecological tourism can be defined as “responsible travel to pristine, fragile, relatively unexploited, and usually protected areas that strive to be low impact.” Wildlife tourism and heritage tourism are more or less synonymous to ecotourism. Enjoying the scenic beauty while simultaneously studying and admiring the biological diversity and culture are the usual gains for the tourist while the concerned government department is benefited greatly via revenue addition, a major chunk of which feeds conservation programs. The stated purposes of ecotourism are to foster public awareness of the environment by sensitizing the travelers to nature and empowering local communities and tribes with an aim to minimize the negative impacts of conventional tourism and human activities on the wilderness. In fact, promoting nature conservation while taking care of the cultural integrity of locales should be the key objective of ecotourism so that future generations, too, may have a feel of an “intact” nature. It came into prominence as a strategy for the conservation of biodiversity-rich areas through appreciation, public support, and attention of private sectors. Clearly, at a time when traditional conservation through enforced protection of natural areas was being questioned for its effectiveness and social impact, strategies such as ecotourism offered considerable potential for integrating conservation with development.

Significance of the proposed activities and major strategies for value addition currently being undertaken by the government and World Wide Fund for Nature (WWF—India) toward developing Rajasthan as a major ecotourism destination of India, without altering the natural scaffolding, is paramount. The major stakeholders of the ecotourism sector, namely, the forest, tourism, and finance departments of the state government, local communities and tribes, private sector, NGOs, and academic institutions must join hands to promote benefits to local people via employment generation, building public support, and people’s participation for nature conservation in this part of the world. Promoting ecotourism via community-based conservation, people’s participation, and rehabilitation of tribes which are otherwise involved in poaching and trade of wild animals, is a necessary step forward. In addition, we also need to look into the policies and prospects of ecotourism in

Rajasthan and issues and problems related to the implementation of ecotourism policy along with the formation of an “Ecotourism Advisory Bureau.” The emerging concepts of ecotourism, wildlife tourism, and heritage tourism need to be looked at with a fresh insight in the fast-changing global environmental scenario.

Within a decade, the ecotourism sector in India captured the attention of both the communities and tourism industry. Over the years, now it has been known as the world’s biggest industry on the basis of its contribution to the GDP, the number of jobs it generates, and the number of clients it serves. Many of the declining ecosystems provide attraction for tourism development involving wildlife viewing, trekking, river rafting, etc. An estimate shows the extent of wetlands in India to be around 13.1 million ha, and the ecosystem service value with respect to average global value going to the national budget is approximately Rs. 7, 151.08 billion per year including ecotourism which is seven times more than the income from our forests ecosystems.

Tourism over the last decade has emerged as the key sector in the economic development of the state of Rajasthan too. The tourist traffic in the state has been growing at the rate of 9.22%. Rajasthan has a very significant role to play in the Indian tourist scenario as out of 18.8 million foreign tourists visiting India every year, as per Department of Tourism, of the State Government of Rajasthan, in 2010, the state alone attracted 12.7 million while 25 million Indian tourists visited the state (Table 18.1). Two world famous tiger reserve, a national park known for the enchanting avifauna, and the 25 wildlife sanctuaries have been attracting domestic

Table 18.1 Tourist influx in Rajasthan during last two decades

S. No.	Year	No. of tourists, Indian	No. of tourists, foreigners	Total
1	1971	880,694	42,500	923,194
2	1972	902,769	48,350	951,119
3	1973	1,157,959	54,611	1,212,570
4	1974	998,227	55,781	1,054,008
5	1975	1,117,663	66,207	1,183,870
6	1976	1,303,633	92,272	1,395,905
7	1977	1,618,822	125,112	1,743,934
8	1978	2,042,586	160,134	2,202,720
9	1979	2,306,550	195,837	2,502,387
10	1980	2,450,282	208,216	2,658,498
11	1981	2,600,407	220,440	2,820,847
12	1982	2,780,109	237,444	3,017,553
13	1983	2,932,622	266,221	3,198,843
14	1984	3,040,197	259,637	3,299,834
15	1985	3,120,944	268,774	3,389,718
16	1986	3,214,113	291,763	3,505,876
17	1987	3,424,324	348,260	3,772,584
18	1988	3,495,158	366,435	3,861,593
19	1989	3,833,008	419,651	4,252,659
20	1990	3,735,174	417,641	4,152,815

(continued)

Table 18.1 (continued)

S. No.	Year	No. of tourists, Indian	No. of tourists, foreigners	Total
21	1991	4,300,857	494,150	4,795,007
22	1992	5,263,121	547,802	5,810,923
23	1993	5,454,321	540,738	5,995,059
24	1994	4,699,886	436,801	5,136,687
25	1995	5,248,862	534,749	5,783,611
26	1996	5,726,441	560,946	6,287,387
27	1997	6,290,115	605,060	6,895,175
28	1998	6,403,310	591,369	6,994,679
29	1999	6,675,528	562,685	7,238,213
30	2000	7,374,391	623,100	7,997,491
31	2001	7,757,217	608,283	8,365,500
32	2002	8,300,190	428,437	8,728,627
33	2003	12,545,135	628,560	13,173,695
34	2004	16,033,896	971,772	17,005,668
35	2005	18,787,298	1,131,164	19,918,462
36	2006	23,483,287	1,220,164	24,703,451
37	2007	25,920,529	1,401,042	27,321,571
38	2008	28,358,918	1,477,646	29,836,564
39	2009	25,558,691	1,073,414	26,632,105
40	2010	25,543,877	1,278,523	26,822,400

Source: Tourism Department, State Government of Rajasthan <http://www.rajasthantourism.gov.in/downloaded> on June 23, 2012

and foreign tourists for many decades. Some of the neglected PAs can be revived by regulated and sustainable tourism. In diverse and fragile ecosystems of Rajasthan, growth of ecotourism offers ample opportunities. The state government has got the sanctions for ecotourism development at the major protected areas including Keoladeo, Ranthambhore, Sariska, and Mt. Abu. Biodiversity conservation coupled with sustainable development of ecotourism is the need of hour; however, unchecked tourism-related activities may pose a big threat and must be handled appropriately.

Rajasthan Ecotourism Policy, 2010

In order to promote ecotourism, sensitize masses, and draw the attention of the central government and NGOs, the state government framed a policy on February 15, 2010, under the guiding principle of various Forest and Environment Protection Acts. Forest activities and ecotourism activities permissible under the policy are trekking, safari, boating and river rafting, bird-watching, overnight camping, etc. For the implementation of the policy, an autonomous “Rajasthan Ecotourism Development Society” under the chairmanship of the Minister, Department of Forest, Government of Rajasthan will be created. It shall find out technical and financial resources from the concerning government departments and NGOs and work for planning, developing, and implementing the projects with the help of Eco-Development Committees (EDC), Joint Forest Management Committees

(JFMC), and local self-help groups for the maximum benefit of locals without posing any threat to the ecotourism sites.

Existing Ecotourism Hot Spots in Rajasthan

Rajasthan has varied habitats nurturing wonderful wild animals and plants intermingled with interesting medieval culture and history which makes it a truly unique ecotourism destination. Historical places, archaeological sites, palaces, *Shikarbadi*s (hunting reserves of the erstwhile Maharajas), temples, etc. are the major attractions of the state. Other natural sites have waterfalls, seasonal springs, ponds, gorges, valleys, rich forests, arboretums, herbal gardens, and nature trails.

At present, there are three national parks, two Ramsar sites, and 25 wildlife sanctuaries (WLS) covering 2.80% of the total geographical area of the state. Ranthambhore and Sariska Tiger Reserves, the world famous heronry of Keoladeo National Park (KNP) and Sambhar Salt Lake having flamingos, attract thousands of tourists. The National Chambal Sanctuary, Tal Chhapar having Blackbuck, Kheechan with the attractive Demoiselle Crane, Desert National Park (DNP), and Kumbhalgarh WLS in Pali and Udaipur are other major tourist attractions of Rajasthan (Fig. 18.1).

The following are the key ecotourism attractions on the basis of tourist arrival in the past few decades:

1. Ranthambhore National Park (RNP), Sawai Madhopur

An ecological hub for threatened species of plants and animals covering an area of around 1,394 km², the park has a large expanse of wilderness with more than 402 plant species and six species of the cat family including the Bengal Tiger (Fig. 18.2a), Leopard, Caracal and Jungle Cat besides deer, Crocodile, Monkeys, birds, and several other animals (Fig. 18.2b). RNP with 42 tigers is a cache of wildlife, culture, history, religion, and heart-pounding excitement. The Ranthambhore Fort which was once meant to protect the kings through the battlements now defends the king of the jungle.

The fort that towers over the forest was occupied for years by Raja Hamir—a Hindu monarch who successfully warded off several assaults by a series of Muslim rulers including Alauddin Khilji in 1301. The army of the Mughal Emperor Akbar was also recorded camping here (1558–1569), and the *Akbarnama* records the menu that the generals were served when they ate under the famous banyan tree, still alive and well at the well-known Jogi Mahal (Fig. 18.2c) amid the dense forest. The park used to be the hunting preserve of the Maharajas of Jaipur, and many tigers were shot here, including an infamous visit in the early 1960s when a tiger was set up to be shot by Queen Elizabeth II. Apart from this, the park displays a variety of magnificent natural landscapes (Fig. 18.2d–f).

2. Keoladeo National Park (KNP), Bharatpur

A UNESCO World Heritage site, popularly known as “Ghana” and “Bird Paradise” for its 398 bird species, was declared as a national park in the year

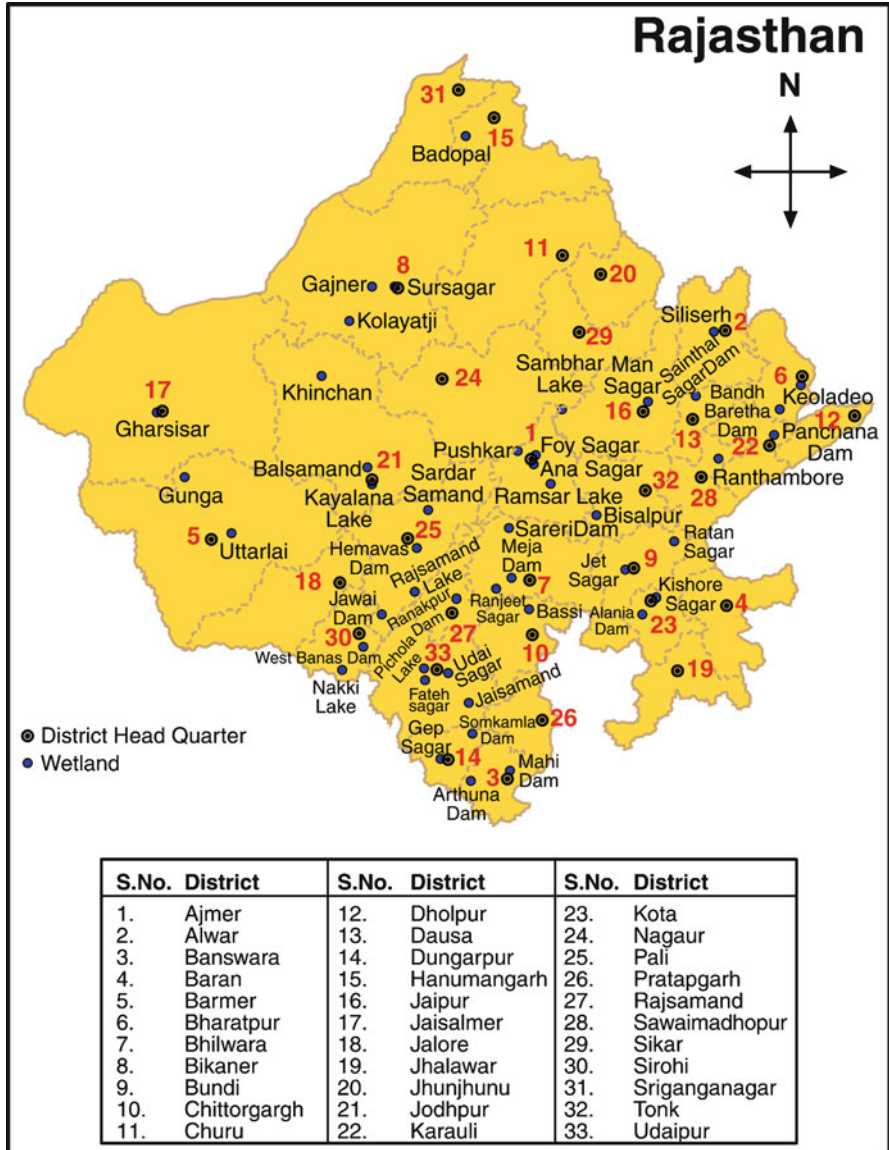


Fig. 18.1 A map showing existing and potential ecotourism sites. Courtesy: Dr. B.K. Sharma

1981. “Salim Ali Interpretation Centre” has been established in the park. A few globally threatened bird species of KNP are Dalmatian Pelican *Pelecanus crispus*, Gray Pelican *Pelecanus philippensis*, Adjutant Stork *Leptoptilos dubius*, Lesser Adjutant Stork *Leptoptilos javanicus*, Baikal Teal *Anas formosa*, Baer’s Pochard *Aythya baeri*, Marbled Teal *Marmaronetta angustirostris*, Cinereous Vulture

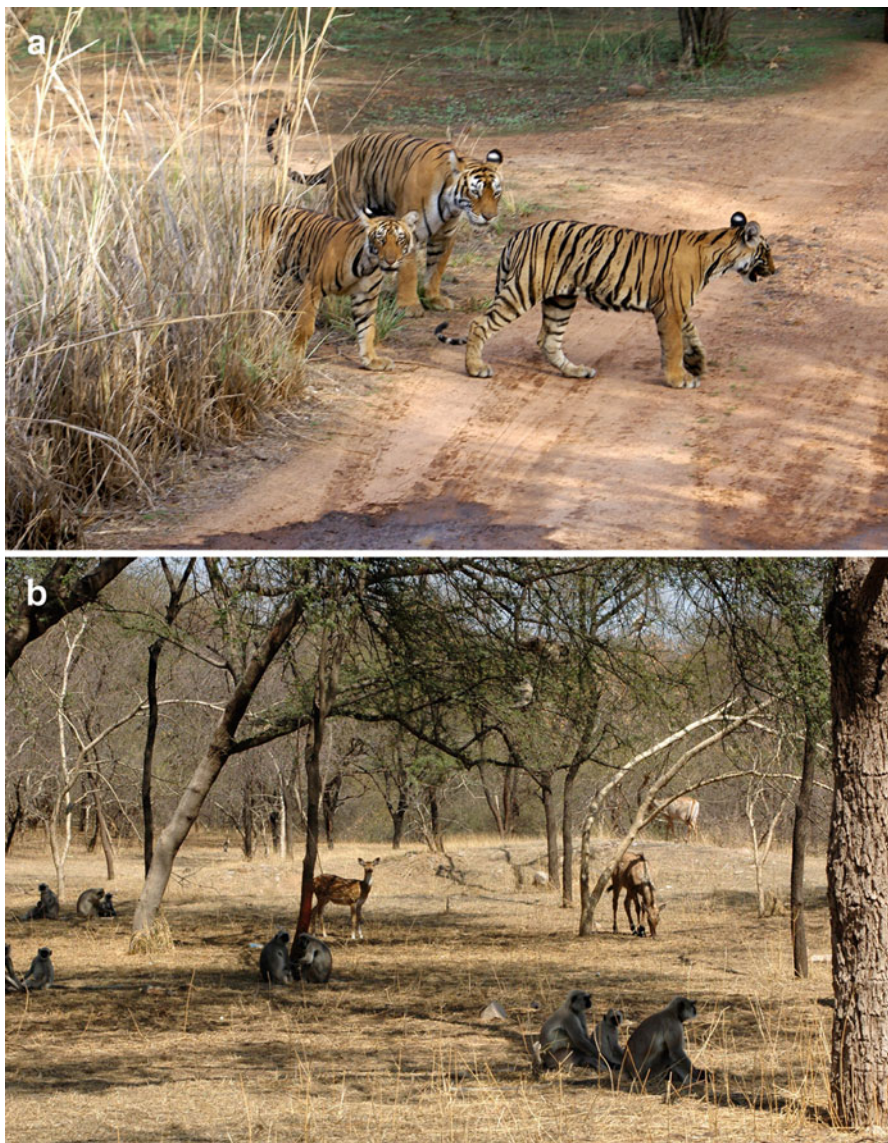


Fig. 18.2 (a) Ranthambhore National Park (RNP) and Tiger Reserve is home to Bengal Tiger. *Courtesy: Devendra Bhardwaj.* (b) RNP inhabits varieties of faunal species. *Courtesy: Devendra Bhardwaj.* (c) Jogi Mahal at RNP, Sawai Madhopur. *Courtesy: Sunil Singhal, Kota.* (d) Forest trail at RNP. *Courtesy: Anish Andheria/Sanctuary Asia Photo Library.* (e) A panoramic view at RNP. *Courtesy: Anish Andheria/Sanctuary Asia Photo Library.* (f) Chital herd at RNP. *Courtesy: Dr. Gobind Sagar Bhardwaj*



Fig. 18.2 (continued)



Fig. 18.2 (continued)

Aegyptius monachus, Imperial Eagle *Aquila heliaca*, and Pallas's Fishing Eagle *Haliaeetus leucoryphus*. Among other animals, the Rock Python is the key attraction of the park (please see Chap. 8 for details).

3. Mount Abu (Abu Hills), Sirohi

Mount Abu, the Olympus of India—as mentioned by Lt. Col. James Tod [1]—is a place which abounds with legends of the Gods, their strivings with demons and giants, and the miraculous deeds of the *Rishis* and the holy men. The famous naturalist Charles McCann who spent a lot of time at Mount Abu in the 1940s admiringly referred it as “an oasis in the desert” [2, 3]. In the oppressive heat of Rajasthan, not surprisingly, the Britishers developed the area into one of the many “hill stations” over a couple of centuries ago. The Aravalli (meaning the “midrib” in Hindi) is a folded mountain having a multiphased evolutionary history during the Pre-Cambrian period [4]. The present geomorphology of this system is a result of tectonic changes in the northwestern Indian shield [5, 6]. Situated on the border of Rajasthan and Gujarat, this popular ecotourism destination harbors the scenic beauty, water courses, hills, and valleys. Winters can be as cold as -4°C in Mount Abu, when frost covers the ground and summers can get uncomfortably warm at around 35°C . Such climatic variation is also a reason for the magnificent diversity encountered in this place, which once even supported the lion. Semievergreen forests occur on the lower slopes of the valleys [7, 8]. Several species of ferns and fern allies also occur at Mt. Abu. In the drier and completely exposed and eroded areas, thorny scrub is common. Along the shady roadsides, moist grassy meadows, and near puddles and fields, herbaceous flora dominates. Interestingly, the maximum number of Bryophytes and Pteridophytes of the state are confined to Mt. Abu. Faunal diversity consists of Sloth Bear, leopard, wild pig, pangolin, and wolf, along with the other common wild animals. Mt. Abu's altitudinal variations have given rise to an impressive avian diversity [9, 10]. Some of the endemic birds to Indian subcontinent like Green Avadavat [11–13] and a few others make it an IBA.

There is no better way to explore Mount Abu than to walk. The favorite trails are Kulgarh *Nullah* Trail, Tiger Trail, Bailey's Walk, Trevor's Tank (Fig. 18.3) to Mini Nakki Lake trail, the Gurushikhar to Oriya Trek, Gaumukh to Gautam Rishi Trail (6 km), Ganesh Point to Anadra Trail, Arna to Rishikesh Trail, and the famous Sunset Point. Naturalists and tourists visit the world famous Nakki Lake believed to have been scooped out by the fingernails of the God (Fig. 18.4a, b) which still reverberates to the sounds of duck, geese, and waterfowl of all descriptions including Little Grebe *Tachybaptus ruficollis*, Striated Heron *Butorides striatus*, Northern Shoveler *Anas clypeata*, Northern Pintail *Anas acuta*, and Common Pochard *Aythya ferina*. Strange rock formations called Toad, Nun, and Parrot Rocks built above 1,200 sea level are worth-watching. The hill station presents a heavenly view together with the magnificent wetlands (Fig. 18.5) strewn in and around the area. The famous Dilwara temples of Jain faith built around eleventh to thirteenth centuries AD with its extraordinary marble carvings and the *Ohm Shanti Bhawan*—the spiritual University of *Brahma Kumaris* at Mount Abu—are the major pilgrimage centers. Tribal festivities, folk music and



Fig. 18.3 Trevor's Tank, Mount Abu. *Courtesy: Sonali Singh*

dance in summer (May—June), and winter festivals (December 29–31) make the visit to the hill station a memorable one.

Summer is the important season when large numbers of tourists visit Mt Abu. Gujaratis form a major part of the domestic tourists, and the tourist influx is increasing day by day (Table 18.2).

4. Sariska Tiger Reserve, Alwar

Rich in wilderness, forts, and temples and endowed with tropical dry deciduous scrub forests, it became controversial in 2005 for losing all the tigers, and now, seven tigers have been relocated from Ranthambhore. Poachers constantly disrupt the peace in this area even today despite all checks and balances imposed by the central and state governments.

5. Desert Wildlife Sanctuary or the Proposed Desert National Park (DNP)

Representing the typical xeric ecosystem of the hot and mysterious desert, spreading over 3,162 km² in the Jaisalmer and Barmer districts (Fig. 18.6a–h), it is home to the Critically Endangered state bird of Rajasthan—the Great Indian Bustard—and the beautiful state animal Chinkara. The DNP has Desert Cat, Desert Fox, Monitor Lizards, and hundreds of other species of birds of prey in addition to the unique Akal Wood Fossil Park.

6. Kumbhalgarh WLS

This famous WLS has got dense forest with a variety of flora and fauna. Sloth Bear and wolf are the key species along with the ancient fort amid the forest as a center of attraction (Fig. 18.7a, b).



Fig. 18.4 (a) A panoramic view of Nakki Lake, Mount Abu. (b) Another view of Nakki Lake, Mount Abu. *Courtesy: Devendra Bhardwaj*



Fig. 18.5 A wetland at Abu Hills

Table 18.2 Tourist influx at Mount Abu

Year	Tourist
1991	8,24,547
1992	8,48,559
1993	10,13,092
1994	9,19,065
1995	11,42,693
1996	11,16,418
1997	12,40,480
1998	13,78,100
1999	13,19,911
2000	12,68,763
2001	12,71,910
2002	10,81,362
2003	13,12,440
2004	14,81,522
2005	14,29,040

Source: Tourism department, Mt Abu

Wetlands of Rajasthan: Oases in the Desert

The importance of wetlands has been realized for ages since they are closely associated with all life forms. The origin of human civilizations in the vicinity of water sources, especially rivers, lakes, and marshes, stands a testimony to this statement. The Space Application Centre (SAC, 1998) mapped the wetlands of India



Fig. 18.6 (a) Golden sand of the Thar Desert mesmerizes the tourists. *Courtesy: Tejveer Singh.* (b) Sand dune of the Thar. *Courtesy: Devendra Bhardwaj.* (c) Rohida tree in the desert. *Courtesy: Tejveer Singh.* (d) A wetland amid desert. *Courtesy: Devendra Bhardwaj.* (e) Demoiselle Cranes at Kheechan are another attraction for the tourist in the desert of Rajasthan. *Courtesy: Sunil Singhal, Kota.* (f) A male and female Demoiselle Crane. *Courtesy: Sunil Singhal, Kota.* (g) Langurs at human habitations in Jodhpur. *Courtesy: Anil Kumar Chhangani.* (h) Gadisar Pond near Sonar Fort at Jaisalmer is famous for its architect. *Courtesy: Devendra Bhardwaj*



Fig. 18.6 (continued)



Fig. 18.6 (continued)



Fig. 18.6 (continued)

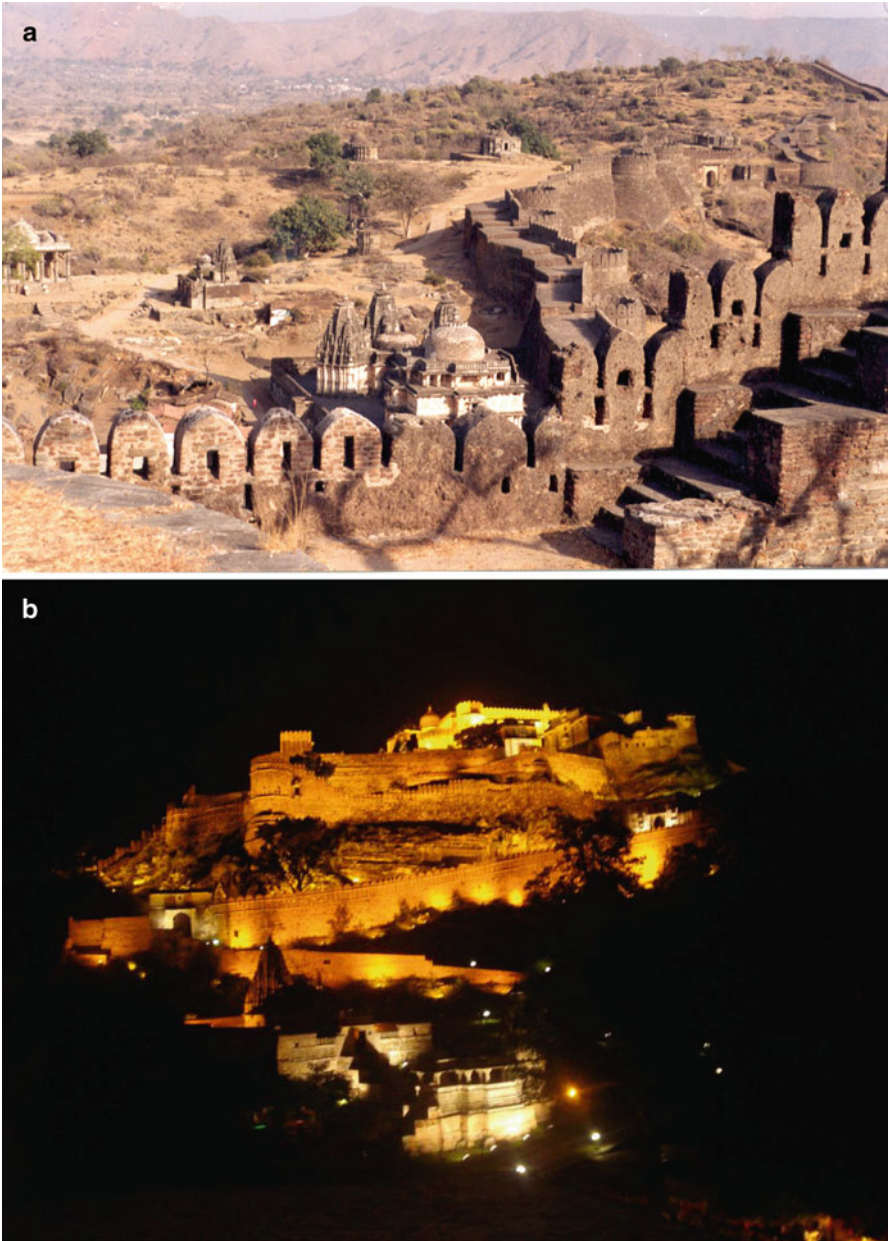


Fig. 18.7 Kumbhalgarh Fort at Kumbhalgarh Wildlife Sanctuary during daytime (a) and night (b)
Courtesy (a): Devendra Bhardwaj. Courtesy (b): Sonali Singh

using remote sensing and documented the extent of wetlands with an estimate of 7.0 million hectares. Rajasthan, in spite of the considerable aridity, is known for a wide variety of wetland ecosystems with their magnificent faunal and floral diversity. In a water scarcity region like Rajasthan, wetlands play an important role in sustainable development. Dependent solely on monsoon, the importance of water conservation in Rajasthan was recognized and practiced even in ancient times. The wetlands were traditionally nurtured and despite the pressures of modern times, have continued to flourish while playing a vital role in maintaining the hydrobiological balance and supporting mankind. In addition, they also make popular ecotourism destinations owing to their natural scenic beauty and associated paraphernalia. There are 123 natural and 931 man-made wetlands in the state of Rajasthan including 44 lakes and ponds and 79 playas, 915 reservoirs, and 16 waterlogged areas. The former three are natural while the latter two are man-made. The major wetlands of Rajasthan include the Ghana and Band Baretha in Bharatpur, Sambhar Lake in Sambhar town, Talab-e-Shahi, Urmila Sagar and Ramsagar in Dholpur, and Siliserh in Alwar. Mansagar Lake (Fig. 18.8) at Jaipur city harbors the beautiful Jal Mahal Palace built around 1734 by Maharaja Sawai Jai Singh-II and once dubbed as an environmental disaster, has now been revived by removing tones of toxic waste and oxygenating it. The other beautiful wetlands of Rajasthan are Chandlai (Fig. 18.9), Chhapparwara, and Ramgarh Lake in Jaipur; Ana Sagar and Foy Sagar in Ajmer Meja and Kareri Dam in Bhilwara; wetlands near Jaipur amid Aravalli (Fig. 18.10a–e); the lake complex of Udaipur comprising of Pichola (Fig. 18.11a–e), Fateh Sagar (Fig. 18.12), Jaisamand, Badi Lake (Fig. 18.13), and Lake Jhadol (Fig. 18.14a, b); and the Sardar Samand and Kaylana Lake in Jodhpur. Udaipur, situated in southern Rajasthan, is popularly known as the “Lake City” and “Venice of Rajasthan.” The Chittourgarh Fort near Udaipur is also a major tourism attraction (Fig. 18.15) from a historical point of view. All in all, the largest number of wetlands (460) is found in Chittourgarh district of the state followed by Bhilwara (340) and Tonk (334).

Potential Ecotourism Destinations of Rajasthan

A number of potential ecotourism sites still unexploited by the rapid pace of civilization, having dense forests rich in biota, natural scenic beauty, waterfalls, and ancient monuments including palaces, forts, and temples, have now been identified. Rajasthan also has a number of ecological parks, animal rescue centers, and zoos which can be developed as newer ecotourism destinations. About 126 ecotourism sites have been identified and selected by the Department of Forest, Government of Rajasthan in the proposal for its Ecotourism Policy, 2010 submitted to the National Tourism Advisory Council (Subgroup on Wildlife Tourism). Out of them, the following 29 major ecotourism destinations have been enlisted and found suitable for developing ecotourism facilities (Table 18.3).



Fig. 18.8 Jaipur, the capital city, also has beautiful lakes, waterbodies, and Aravalli along with many scenic attractions. The picture shows Jal Mahal; once dubbed an environmental disaster, the iconic palace now attracts tourists with its extraordinary beauty. *Courtesy: Devendra Bhardwaj*



Fig. 18.9 Chandlai—the magnificent lake near Jaipur has flamingos. *Courtesy: Sunil Singhal, Kota*



Fig. 18.10 Beauty of Aravallis. *Courtesy: Devendra Bhardwaj.* (a) A wetland on hilltop near Jaipur. (b) Another seasonal wetland near Jhalana forest, Jaipur. (c) A waterbody near Jaipur during rains. (d) A scenic view of Jaipur city can be seen from the Aravalli. (e) Aravalli near Jaipur with slopes and peaks



Fig. 18.10 (continued)



Fig. 18.10 (continued)



Fig. 18.11 Pichola Lake, Udaipur. (a) View from the roadside, (b) City Palace near the lake, (c) Nehru Palace amid the lake, and (d) view of Lake Palace Hotel in the night and (e) Lake Palace during the daytime. Courtesy: Sonali Singh



Fig. 18.11 (continued)



Fig. 18.11 (continued)



Fig. 18.12 Fateh Sagar, Udaipur. *Courtesy: Sonali Singh*



Fig. 18.13 Badi Lake, Udaipur. *Courtesy: Sonali Singh*

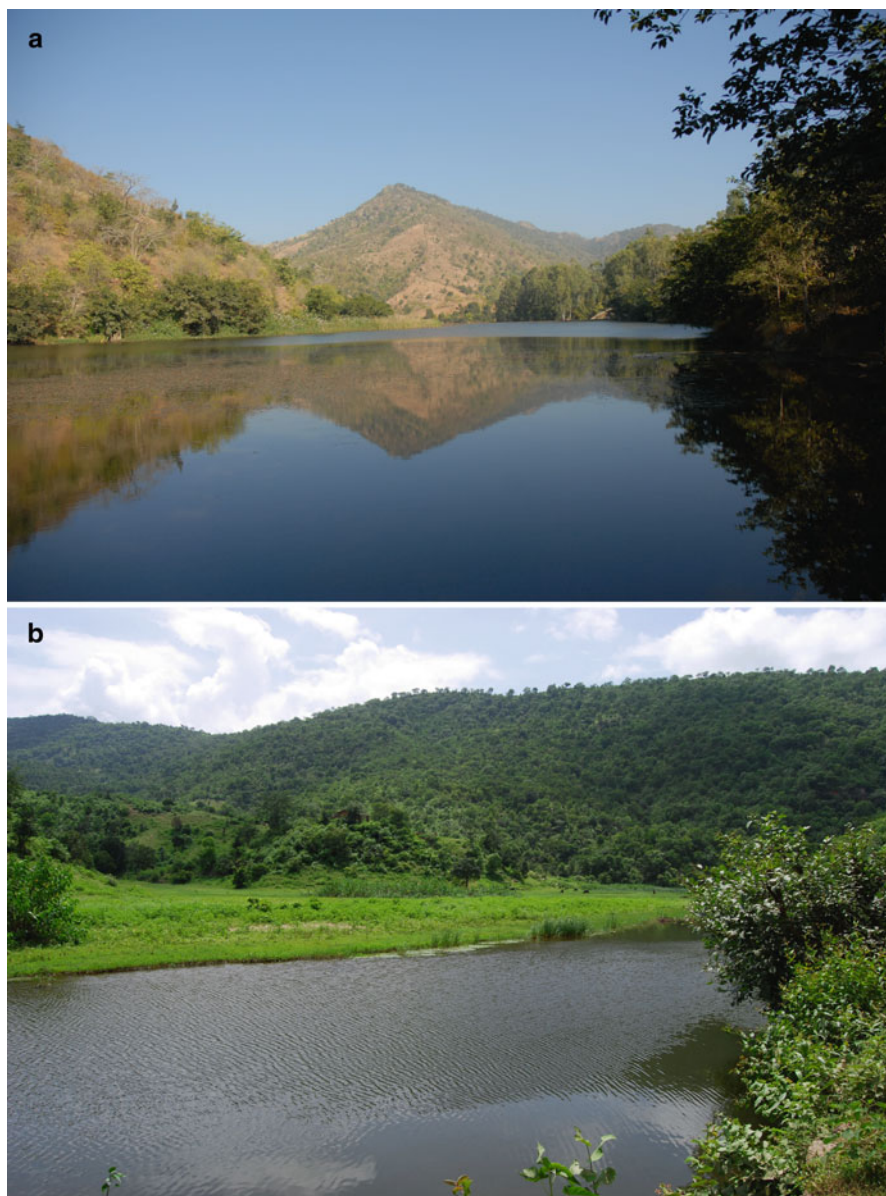


Fig. 18.14 a & b. Lake Jhadol, Udaipur. *Courtesy: Sonali Singh*



Fig. 18.15 The historical Chittourgarh Fort has Victory Tower and Meera Temple (seen in this picture) as major tourist attractions in the southern Rajasthan. The Birla Cement Factory can be clearly witnessed in the backdrop. *Courtesy: Sunil Singhal, Kota*

Sambhar Salt Lake

The Sambhar Salt Lake situated in Jaipur, Ajmer, Nagour, and Sikar districts of Rajasthan is a rain-fed playa of the arid zone. Considered as a significant flamingo habitat after the Rann of Kutch in Gujarat, it is one of the largest inland saline wetlands and one of the two Ramsar Sites of Rajasthan. The lake is currently facing many potential threats like illegal salt extraction and rising temperature and above all ignorance by the authorities. Apart from these, unregulated tourism activities continue to be a major cause of concern. A prospective study by the lead authors (Drs. Seema Kulshreshtha & B. K. Sharma) during 2006–2010 aimed at bio-monitoring of the faunal diversity and evaluation of the conservational threats to the lake concluded that, despite continued deforestation, anicut formation in the course of its drainage coupled with an array of other anthropogenic pressures, this wonderful saline ecosystem still holds multidimensional values of being developed as a prospective ecotourism site of the state. The lake also has historical significance being the first capital of *Chauhan* kings who ruled northern India. This famous repository of salt known throughout the world is considered as the blessing of the Goddess Shakambhari whose temple stands tall amid the lake even today, pointing toward its religious value for Hindu tourists. In addition, Naliasar, situated four kilometers

Table 18.3 Existing and potential ecotourism destinations of Rajasthan

S. No.	Existing ecotourism destination	Major sites	Remark
1.	Tribal tourism destinations	Banswara, Dungarpur, Udaipur, Jaisalmer, Shekhawati, and Bishnoi villages	The fascinating world of <i>Mina</i> , <i>Bhil</i> , <i>Garasias</i> , <i>Bishnoi</i> , <i>Gaduliya lohars</i> , and <i>Sahariya</i> tribes in the rustic village trails of Udaipur, Dungarpur, Jaisalmer, and Kota. Discover the enchanting tribal history, legends, tribal crafts, ethnic costumes, traditional jewelry, tribal homes, and tribal music and dance
2.	Rajasthan Desert Safari	Akal Wood Fossil Park, Annual Desert Festival, and Desert National Park	An exciting camel or a jeep safari to the vast expanses of the desert dotted with hundreds of shifting sand-dunes and fascinating medieval cities of Jaisalmer, Bikaner, and Jodhpur, located in the heart of the Thar Desert
3.	Rajasthan eco- and wildlife tours	Lake City Udaipur, salt lakes, IBAs, southern forests, arid zone ,deer and antelopes sightings, Mt. Abu—the only hill station of the state—and Chambal River with crocodiles and dolphins	Tiger reserves, national parks, and varied physiographic regions with a variety of magnificent fauna and flora and protected areas make it an exciting ecotourism destination
4.	Rajasthan Royal Heritage train tours	Royal destinations like Jaipur, Udaipur, Bikaner, and Jodhpur with their famous forts and palaces	The Indian Railways operates some of the most elegant heritage trains of India—the Palace On Wheels, Royal Orient, and the Fairy Queen which take tourists to the cities of the magnificent forts; beautiful palaces; splendid havelis, temples, churches, mosques, and tombs; colorful cultural programs; and festivals on board offering a good insight into the cultural richness of Rajasthan
6.	Royal Wedding Tours	Older <i>havelis</i> and palaces turned into heritage hotels make arrangements for charming weddings in traditional Indian style	A royal wedding in Rajasthan recreates a medieval grandeur and regal charm and ambience of the era gone by
Potential ecotourism destinations			
1.	Jaipur	Jhalana Hills Nahargarh Biological Park Sambhar Lake Kukas Dam	Excellent trekking routes, World Forestry Arboretum, Jhalana Park Biological Park, Tiger and Lion Rescue Centre having 27 tigers, beautiful hills, and valley Salt lake with winter-visiting flamingos, salt-extraction sites and ancient salt pans, and Shakambhari Temple Scenic beauty of hills and parks

(continued)

Table 18.3 (continued)

S. No.	Existing ecotourism		Remark
	destination	Major sites	
		Jamwa Ramgarh WLS	Hunting Tower, dam, lake, and scenic beauty
		Virat Nagar	Historical and archaeological site, religious places
2.	Alwar	Naliasar	Archaeological site near Sambhar town, a pond is a good birding site
		Silisade	Waterfall, forest, and scenic beauty
1.	Dausa	Bhangarh Fort	Famous as haunted fort surrounded by dense forest
		Toda Bheem	Historic site amid thick forest cover
		Kalakho	Dam, water birds, proximity to highway
2.	Bharatpur	Bandh Baretha	Dam, unique vegetation, forest
		Bharatpur Fort	Lie within the city with the walled area, can be further developed
3.	Dholpur	Deohansgarh	Historic place, good forest
		Damoh	Waterfall, picturesque forest
		Talab Shahi	Waterbody, bird-watching place, old architecture near Badi
		Van Vihar	Facing waterbody surrounded by thick forest cover
4.	Karouli	Kailadevi Temple and WLS	Temple in the vicinity of thick forest
		Deogiri Fort	Historic fort amid thick forest
		Udayagiri Fort	Historic fort amid thick forest
5.	Sawai Madhopur	Choth ka Barvada	Temple of Goddess
		Khandar Fort	Historic fort amid thick forest
6.	Bundi	Ramgarh Fort	Historic fort amid thick forest
		Bhelupura	Dam, thick forest
		Bhimlat	Waterfall, dense forest
		Talwas	Lake surrounded by dense forest
		Ajitgarh	Historic fort amid thick forest
7.	Kota	Rawatbhata	Beautiful dam, rose garden, Hydel project, scenic beauty
		Garadia Mahadev Temple	Temple and dense forest
8.	Jhalawar	Gagron Fort	Historic fort amid thick forest
		Jiren Mahadeo	Water stream, religious place amid thick forest
		Band Deora	Archaeologically important, temple amid forest

9.	Baran	Shahabad Valley Kunda Khoh Shergarh Fort Sorsan Panch Kund Udaipur lake Pitambar ki Gal Ana Sagar Meinal Hamirgarh Harni Mahadev Bisalpur Shivad Hathini Hodi Neelia Mahadeo Bhanwar mata Goautameshwar Temple Bagdara Ubeshwar Mahadev Nal Sandol Kamalmath Khoria ki Nal Sei Dam Banki Farm Jhameshwar Sim mata Dhudheshwar Desuri ki Nal Ranakpur Pashupatinath	A valley surrounded by forest with centrally located small guest house Waterfall, picturesque beauty near Shahabad Fort Historic fort amid thick forest Great Indian Bustard can be seen here, protected forest Deer Park, thick forest near Pushkar Lake amid forest Gorge with thick forest Lake with flamingos and water birds Waterfall, temple, forest, and a monument Water tank and a birding site Religious place amid forest with water tank Dam, hills, forest site, scenic beauty Temple with hills and good scenic beauty Formerly Hunting Tower, forested valley A religious place with water stream, thick forest Temple amid thick forest Temple amid thick forest Central water lake with crocodile population amid thick forest Religious place with water stream, forest, and a rest house Forested valley and a herbal garden Temple on hilltop and trekking route Trekking potential, nursery, small park Dam, water birds Hunting tower, thick forest, nature trail Temple, spring, dense forest Seasonal spring, dense forest Temple amid forest Good trekking potential, forested valley, and a variety of fauna Historical and beautiful Jain Temple, thick forest, trail Famous temple, trekking potential, thick forest
10.	Ajmer		
11.	Bhilwara		
12.	Tonk		
13.	Chittourgath		
14.	Udaipur		
15.	Rajsamand		

(continued)

Table 18.3 (continued)

S. No.	Existing ecotourism destination	Major sites	Remark
16.	Banswara	Undavella Tripura Sundari Sharvan Dery Deo Somnath Vaneshwar Chhipaberry Jawai dam Muchhala Mahavir Kiradoo Siwana Nakoda Machia Traver Tank Guda Bishnoi Gajner Karni Temple Akal Wood Fossil Park Sun Khundi Ghantiyli Pilibanga Lohargal Mansa mata Bhuwal mata Harsha Pahad Gangeshwar Mahadev	Water stream, temple, forested valley Bhim Kund, Ram kund, hot and cold spring, religious place, thick forest Herbal garden, a reviving forested valley in the back waters of Mahi dam Nature site and forest Tribal temple amid forest and predominantly tribal area Herbal garden, forest Birding site Trekking route, beautiful Jain Temple amid forest Monument amid forest Rock climbing, thick forest, picnic spot Famous Jain Temple amid forested hills Site chosen for biological park, thick forest Good birding site, water body Famous tribal area for deer conservation Birding site, palace, water tank Only temple with thousands of rats amid forest A fossil park with surrounding desert Site for sand-dunes Site for sand-dunes Site for sand-dunes Good sitting for flamingos and other birds and archaeological site Good site, sulfur springs Temple amid forest Temple amid forest Good forested hill, trekking potential Temple amid forest
17.	Dungarpur		
18.	Sirohi		
19.	Pali		
20.	Barmer		
21.	Jodhpur		
22.	Bikaner		
23.	Jaisalmer		
24.	Hanumangarh		
25.	Jhunjhunu		
26.	Nagour		
27.	Sikar		

away from the main Sambhar town, has great archaeological importance owing to its terracotta figurine and evidences of Kushan and Gupta Periods obtained during geological excavations. Eco-rehabilitation and ecotourism development of this rapidly degrading wetland and its catchment require multidisciplinary approach for sustainable lake basin management, water resource management, and forest management besides looking after the habitat depletion and other potentially deteriorating effects of climate change. The lake offers many pristine sites of tourist interest. Planning organized ecotourism-related activities around the clusters at Sambhar Lake and Sambhar town, trekking on Aravalli Hills surrounding the lake, forest camping, cultural gatherings near salt pans, cycling treks, bird-watching activities, village visits, zoological and botanical tours, nature photography, and hot air ballooning can surely attract large number of foreign tourists in this area. Geopark can also be established in this location for bio-monitoring, for public education, and for creating awareness and generating employment for the local youth. Huge amounts of protein can be extracted from the algae *Spirulina* present in the lake, which can be of immense economic importance and assistance in providing employment to the local youth. The strategies and action plan may include development of facilities for tourists around the lake, capacity building of local communities for meaningful participation in various activities focusing development of ecotourism to ensure sustainable livelihood opportunities, and development of publicity material and marketing of products and services to the larger tourist clientele while building partnerships of all the stakeholders. It is strongly hoped that government–private and public–private partnership would play an important role in this direction. By developing this lake as an ecotourism spot, we can stop this fascinating habitat from sliding into oblivion. It is believed that Sambhar Salt Lake shall make one of the most sought after ecotourism destinations of Rajasthan due to the unique ecosystem which this lake harbors.

In addition, Sajjangarh WLS and its fort (Fig. 18.16), Harsh Parvat Temple of Sikar (Fig. 18.17), and the haunted fort and temple of Bhangarh (Fig. 18.18) are other potential ecotourism destinations which lure the tourist.

An important biodiversity-rich ecotourism zone of Rajasthan encompassing the natural scenic beauty and having dynamic ecotourism prospect is given below as a case study:

Prospects of Ecotourism in Hadoti Region: A Case Study

Hadoti is the land of *Hada Rajputs*, whose ancestry traces back to the *Chauhan Rajputs* clan. The region was earlier ruled by the *Bhil* and *Mina* tribe, and a small population of them still inhabits the area. Jait Singh Hada, the prince of Bundi, vanquished the *Bhil* chief of Akelgarh and laid the foundation of Kota in 1264 AD on the banks of River Chambal. Kota remained a tutelary of Bundi until 1624 AD, and then Rao Madho Singh received independent charge of the 360 villages from his father Rao Ratan Singh of Bundi. Thus, Kota became an independent state and was accorded recognition by the Mughal Emperor Shah Jahan in 1631 AD; later, Maha Rao Bhim Singh-I's successors ruled the state.



Fig. 18.16 Sajjangarh Fort is situated in Sajjangarh WLS, Udaipur. *Courtesy: Devendra Bhardwaj*



Fig. 18.17 Harsh Parvat Temple at Sikar is a pilgrimage and also a beautiful place. *Courtesy: Devendra Bhardwaj*



Fig. 18.18 Bhangarh Fort is considered the most haunted place in Rajasthan. *Courtesy: Devendra Bhardwaj*

Locally called *pathar* (stony) and *uparmal* (high tableland), the eastern and southeastern part of the state of Rajasthan is known as Hadoti. The plateau lies in the eastern parts along with the Chambal River in the southeast of Mewar Plain and covers greater part of Bhilwara, Bundi, Kota, Baran, and Jhalawar districts. It contains about 9.6% of the total area of Rajasthan. The tableland has a diverse topography consisting of sandy uplands, broad depressions, and level stretches of deep black soil. East of the plateau has a general slope toward Gwalior in Madhya Pradesh state and the catchment of the River Betwa, and to the northeast a rugged terrain along the frontier line of the Chambal in Karouli district. Further northward, the topography opens out into flat plains of Yamuna basin. Most of the part of this region is drained by Chambal River and its tributaries like Kalisindh, Parwan, and Parwati. This plateau is further subdivided into two, namely, Vindhyan Scarpland and Deccan Lava Plateau.

The plateau in this region has *Dhok* and *Salar* trees intermingling with the dry deciduous forests whereas the river valley has evergreen bamboo and moist forest flora. The land adjoining Malwa Plateau and Vindhya Mountain Range in the east have thick *teak* forest. A series of rock-shelters and cave-paintings which are supposedly as old as 25,000 years leaves an indelible mark on one's mind. We find a rare continuity in the history of the region, as a number of excavated mounds have yielded copper, iron and terracotta artifacts, stone jewelry, terracotta beads, red earthenware, seal, and coins, belonging to prehistoric civilization of the mankind.

The region is abound with a diverse fauna, including some of the rare animals like Caracal, Rattle, Gray Wolf, Sambar, and Four-horned Antelope. The avian diversity is phenomenal and includes rare birds like Great Indian Bustard, Lesser Florican, Painted Sandgrouse, Painted Spurrow, Gagrani Parakeet, Green Pigeon, a variety of migratory flycatchers, bunting, ducks, and geese. The rivers are teemed with Mahseer and other game fishes as well as turtle, Gharial, Mugger and Smooth-coated Otter. The spirit of adventure took the rulers of Hadoti to the jungles, which they loved and protected with zeal. The modern wildlife sanctuaries are actually protected forests of erstwhile rulers of Kota and Bundi states. A number of forest recluses and hunting lodges still provide shelter to a wildlife lover on a vigil at night to watch some rare activities of the forest. The valiance and spirit of adventure of yesteryears gave rise to adventure sports of today. The thrill of being in the forest and in the river valley has attracted many tourists to Hadoti. The adventure of boating, jeep, and horseback safari, water sports, air sports, joy air rides, and trekking on the lonely forest paths have made Hadoti an ideal destination for someone who is an ardent admirer of nature and wildlife tourism.

Wildlife Protected Areas of Hadoti

The districts of Kota, Bundi, Baran, and Jhalawar have five wildlife sanctuaries (WLSs), namely, the Jawahar Sagar, Darrah, National Chambal, Ramgarh Vishdhari and Shergarh Sanctuaries, and the Sorsan Great Indian Bustard Sanctuary (Fig. 18.19). A number of excellent bird-watching sites like Udupuria Bird-Watching Centre are suggested for those who wish to see resident and migratory birds in their natural habitat. Jawahar Sagar and Darrah WLS are excellent for nature education, trekking, bird-watching, butterfly viewing, and studying ferns, orchids, tuberous plants, bryophytes, medicinal plants, shrubs, herbs, grasses, climbers, lianas, and trees. The grasslands of Sorsan, Borawas, Garadia Mahadev, and Abhera villages support the specialized fauna suitable for such habitat. The habitats at Mukundra Hills National Park (Fig. 18.20) and River Chambal (Fig. 18.21a, b) are of great significance from the standpoints of scenic beauty and biodiversity including the gharial, crocodile, otter, and large number of avians. Other birding attractions and wetlands near Kota district of the Hadoti region are Bardha Dam, Alniya Dam, Ranpur Talab, Abhedha Talab, Chandoli River, Chandresal, Ummedganj Reservoir, and Sorsan.

Bird-Watching at Hadoti

The dams, reservoirs, tanks, and rivers of Hadoti offer some excellent bird-watching locations.

Painted Stork Community Reserve of Udupuria is situated only 30 km from Kota (Fig. 18.22). It is a marvel of conservation initiated by the villagers. The storks start



Fig. 18.19 Blackbucks at the Sorson Sanctuary, Kota. *Courtesy: Sunil Singhal, Kota*



Fig. 18.20 Mukundra Hills, Kota. *Courtesy: Sunil Singhal, Kota*



Fig. 18.21 (a) River Chambal view at Jawahar Sagar. (b) River Chambal meandering through gorges. *Courtesy: Sunil Singhal, Kota*



Fig. 18.22 Painted Storks at Udpuria Wetland, Kota. *Courtesy: Anil Nair*

arriving in the month of August every year and reside to raise their chick in the friendly atmosphere of Udpuria. The villagers are aware of the requirements of the bird and make sacrifices to make them comfortable. Some trekking routes ideal for bird-watching are Selzer–Chambal providing eight kilometers walk along a stream with crossing over to Kadab ki khal area to watch aquatic birds; Kolipura–Girdharpura, 12 km through Karondi and Kanjhar; Laxmipura–Darrah village through Jhamara and Gaddhe-ka-mala; Shergarh Sanctuary, six kilometers along the Parban River on the right bank; and Jawahar Sagar–Rani Amba, eight kilometers along the Chambal River and atop the hill are good for bird-watching. Grassland trails for bird-watching are Daulatganj–Geparnath, Ahera–Bardhahas trek through a rough terrain, and Garadia Mahadev crossing the limits of Kota city to Dabi. A boat ride of about 26 km at Jawahar Sagar is a bird-watchers’ dream run. The motor boats are available from Kota. Kadab ki khal, on the upstream Chambal River, is a great site for bird-watching where the forest department provides boat on hire. Bardha Dam is a medium-sized dam in Bundi district, about 18 km from Kota where thousands of migratory birds gather during winter. Alniya Dam situated 20 km from Kota city is also well-known for its avian diversity.

Key Activities for the Promotion of Ecotourism in Hadoti

For promoting tourism in the WLSs, the following aspects need to be developed so that the visitors get attracted and carry the message of nature conservation. Conducting nature education camps, trekking, wildlife viewing, horse or camel safari, botanical excursions, nature education trails, bird-watching, hiking, participating in cultural events, photography, and mountaineering are a few activities which may attract tourists.

Adventure Sports

There are excellent opportunities for water sports at Chambal River such as boating, water skiing, kayaking, wind-surfing, and water-rafting. The Department of Tourism, State Government of Rajasthan has initiated an Adventure Sports Festival at Kota. The tourists may also enjoy boat rides in Jait Sagar in Bundi and Keshoraipatan. The boat ride from Rangpur to Keshoraipatan in the backdrop of setting sun and the beauty of the Keshav Rai Temple in the foreground is an enthralling experience.

Prehistoric Sites

The cave -shelters and cave- paintings of the prehistoric man from stone, copper, and iron ages have been discovered in Hadoti. A glimpse of the ochre-, green-, red-, and white-colored drawings provides an insight of the social life and the intellect of the early man. 25,000–30,000-year-old rock shelters on the banks of Alniya River have some of the most primitive paintings depicting animal figures, geometrical designs, and hunting scenes. Nalhah, Golpur, and Garadada's large painted shelters offer an opportunity to invade the past through the expressive artwork of early man. The older paintings depict wild animals, human figures, and abstract designs, whereas at some places, village life and agropastoral way of life has been shown. Tiptiya is a recent discovery at Darrah Sanctuary on little uphill climb and has human forms and patterns dating back to early history and beyond. A well-preserved collection of cave art of the early man is also available for viewing at Kanyadah in Baran district.

Forts and Palaces

The early medieval and medieval fortifications of Gagron, Taragarh, Bundi (Fig. 18.23), Shergarh, and palaces like Garh Palace, Kota (Fig. 18.24), are reminiscent of the valiant past of Hadoti. The Jagmandir–Kishore Sagar (Fig. 18.25), Abheda Mahal (Fig. 18.26), Rajvilas, Kesarbagh, and Rani Bagh complex with their intricate sculpturing and frescoed walls provide enough proof of the glory and opulence of their occupants.



Fig. 18.23 Bundi Fort, Bundi. *Courtesy: Devendra Bhardwaj*



Fig. 18.24 Garh Palace, Kota. *Courtesy: Sunil Singhal, Kota*

Places of Pilgrimage and Other Places

The rulers and their subjects welcomed and assimilated the migrants of all faiths and beliefs. Mathuradhish Temple, Kota; Keshav Rai Temple (Fig. 18.27), Keshoraipatan; Padmanabh Sun Temple, Jhalrapatan; and Sheetaleshwar Mahadev Temple, Chandrabhaga are well-known pilgrimage places. Some of the most sacred places of Jainism, like Adinath Temple, Chandkheri; Swami Suvratnath Temple, Keshoraipatan; Nageshwar Parshwanath Temple, Unhel and Kolvi; and Vinayaka—located on the red mud bank of Kyasari River and a hillock holding a rock-cut Buddhist monastery, are of immense significance. This group of monasteries belongs to seventh century A.D. and has whole blocks of prayer halls, stupas, temples, and double-storied living quarters. Many Sufi saints came from as far as Persia and



Fig. 18.25 Jagmandir, Kota. *Courtesy: Sunil Singhal, Kota*



Fig. 18.26 Abhera Mahal (Palace), Kota. *Courtesy: Sunil Singhal, Kota*



Fig. 18.27 Lord Keshorai Temple. *Courtesy: Sunil Singhal, Kota*



Fig. 18.28 Badoli Temple, Kota. *Courtesy: Sunil Singhal, Kota*

made this place their home to spread the message of love and peace. Badoli, situated 45 km from Kota on Chittourgarh road, has a unique tenth- to eleventh-century temple portraying celestial beauty (Fig. 18.28). Bhand Devra, Ramgarh, is an early medieval temple made in the style of famous Khajuraho temples; the beautifully carved pillars are famous for their erotic depictions. Vilas at Kanyadah has a deep natural reservoir on the Vilas River. The cave-shelters and cave-paintings make this visit a worthwhile experience. Kakoni has a huge collection of ninth- to eleventh-century statues of Gods and Goddesses, carved pillars, and torans which make it an exquisite place to visit. Bheem Chauri is the famous statue of a stringed instrument player which was displayed at exhibitions all over the world. Geparnath Mahadev Temple has a three-step waterfall running in the valley during rainy season. The pristine beauty and wildlife makes it fascinating for the tourist. Bijolia Temple is also famous for its architecture (Fig. 18.29). Majority of temples in Rajasthan invariably have a *Ficus benghalensis* or *Ficus religiosa* tree in the campus where Hanuman Langur can be found in large groups (Fig. 18.30). A rare photograph depicts two langurs at a water hole in a forest (Fig. 18.31). They pose a major attraction, especially for the international tourists.

In addition, the museums of Kota and Jhalawar possess a good collection of antiquities. Rao Madho Singh Museum is a private collection of items belonging to the erstwhile rulers of Kota kept at Garh Palace, Kota. The miniature and wall-paintings are a must-see for the tourists.



Fig. 18.29 Bijolia Temple, Kota. *Courtesy: Sunil Singhal, Kota. Courtesy: Devendra Bhardwaj*

Fairs and Festivals

National Dussehra fair held at Kota during the months of Oct–Nov every year is the most famous all over India. Kartik fair at Keshoraipatan held on the banks of Chambal River, Chandrabhaga Kartik fair at Jhalrapatan, Bundi *Utsav* (festival) and Teej fair at Bundi, Dol fair at Baran, Tribal fair at Sitabari of the Saharia tribal, Nhan festival at Sangod, and the handicraft and industrial fair at Kota are among other popular fairs attended by locals and tourists in large numbers.

Ecotourism: A Double-Edged Sword

No doubt, the ecotourism industry constitutes the backbone of the economy of the state of Rajasthan, but it is also becoming a major threat to its varied ecosystems. Several hundreds of hotels are currently running in the PAs and other biodiversity-rich areas outside them without any proper waste management, and at some places, sewage is being released either in the open or into the nearby aquatic body. Tourists also increase the anthropogenic pressures in an already burdened ecotourism site. Although, a separate tourism policy has been formed in 2007 by the state government, we still need to honestly implement its various guidelines in order to carry on



Fig. 18.30 Hanuman Langurs *Semnopithecus entellus* sitting on *Ficus bengalensis* tree. Courtesy: Anil Kumar Chhangani



Fig. 18.31 Hanuman Langurs *Semnopithecus entellus* at a water hole in a forest. Courtesy: Bernard Castelein/Sanctuary Asia Photo Library

with a sustainable ecotourism by actively involving the target groups, key stakeholders, and above all the local people. Please see Chaps. 1, 2 and 3 from *Faunal Heritage of Rajasthan: Ecology and General Background of Vertebrates*, Vol. 1; B. K. Sharma et al. (eds.), 2013, Springer Pub. and Chaps. 1, 8, 19 and 20 from this volume for more pictures and information.

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