

## A Study Of Eco Tourism In Rajasthan: Environment Issues And Its Ways Of Control

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### Abstract-

*Rajasthan's increasing popularity as a tourism destination with foreign as well as domestic tourists and the growing popularity of tourism concepts such as nature tourism, eco-tourism, rural tourism, it is necessary to outline specific environment controls framework to ensure sustainability of tourism. With proper ecological environmental controls, the threat to ecological balance could be mitigated. Tourism industry in Rajasthan lacks information on the requirements of sustainable tourism and on how to integrate economic interests with environmental and social requirements. While the tourism industry in Rajasthan may be willing to improve their products and services, there would be an imminent conflict between the industry's pursuit of economic gains and social and environmental responsibility. So, this research paper highlights the environment issues of tourism in Rajasthan and suggested ways to make Eco friendly tourism in Rajasthan.*

### 1. INTRODUCTION-

Tourism activity like any other industry has the potential to disturb the environment of the native place. This could be in the form of increased air, water and noise pollution, destruction of the social and cultural fabric of the native place, disturbance destruction of the natural biodiversity of the place, etc. Table-1 gives an list of environmental issues that may arise due to increased tourism activity in Rajasthan.

### 2. OBJECTIVES-

- To find out the environmental issues in Rajasthan.

- To improve sustainability of tourism through through suggested ways of Eco-tourism.
- To make Eco- logical Heritage as a focus area of environmental control.

### **3. METHODOLOGY**

To achieve the objectives of the study, quantitative re-search was conducted by means of a survey, conducted in Rajasthan. To represent the total population, an appropriate sample of 500 questionnaires was selected for which purposive quota sampling approach was used. The quotas were specifically based on residents' occupational status with a view to make the sample as representative as possible.. The data was captured in Microsoft Excel and analysed by using the Statistical Programme for Social Sciences (SPSS 16.0). The descriptive statistics focused on the demographic profile of the community where frequencies were used to analyze the data.

### **4. ECO-TOURISM IN RAJASTHAN: KEY ISSUES**

Eco-tourism is generally described as 'tourism associated with protected areas'. Eco-tourism, a form of nature based tourism, aims to be ecologically, socio-culturally, and economically sustainable while providing opportunities for understanding and appreciating the natural environment. The three elements of Eco-tourism in Rajasthan perspective could be identified as:

- Focus of attraction is natural environments (e.g. wetlands or deserts) or specific components thereof, such as a particular type of animal or plant.
- Emphasis is on learning as an outcome of the interaction between tourists and natural environment. Eco-tourism is therefore differentiated from a generic naturebased tourism that are more *leisure based* or those that are *adventure oriented*.
- Sustainability which ensures that the integrity of those places is not undermined whilst understanding and appreciating natural attractions.

Eco-tourist is a word coined for nature and wildlife tourists and aims at providing the tourist with nature tourism opportunities and also at generating economic returns to strengthen protected areas and augment economic benefits for the local people. Rajasthan despite having only 9.32% of geographical area under forests offers varied opportunities of developing eco-

tourism both in the protected areas and outside the protected areas. The development of Eco-tourism will not only enhance the tourists arrivals in the state but also earn sizeable foreign exchange together with employment generation largely in an around forest areas benefiting rural and tribal population of the state. **Table-1**

Environmental Issue	Connection to tourism	Environmental Problems arising from / addressed by
Negative effects of increased tourism activity		
Changes of biological resources	Tourism activities such as hunting fishing, camping and other sports may lead depletion of ecosystems and species	Loss of biological diversity Soil contamination
Land use and environmental restructuring	Construction of roads, hotels, resorts, ropeways and other infrastructure	Loss of biological diversity Soil erosion
Waste discharge in water, air and land	Increase in the number of persons in tourism areas leads to increase in amount of waste	Air pollution Water pollution Soil contamination
Water use for human activities	Increased consumption of sparse resources during tourism seasons	Resource scarcity
Energy Production and consumption	Tourism will lead to increased use of various means of transport	Greenhouse effect Destruction of ozone layer Air pollution
Human health and environmental disasters	Emission of noise and gases from traffic will affect human health and increase destruction of buildings of cultural value	Noise pollution Air pollution
Positive effects of increased tourism activity		
Resource Management	Increased income from tourist may lead to better resource management	Loss of biological diversity soil Contamination and
Environmental Issue	Connection to tourism	Environmental Problems arising from / addressed by
	Tourist interest in flora and fauna may lead to an increase in area of natural reserves	erosion
Pollution monitoring control	Demand from tourists for good quality drinking water, etc. may lead to better monitoring	Water pollution, Air pollution Noise Pollution
Effects of environment quality on tourism activity		
Ecosystems inventories	Ecosystems such as forests, deserts, wetlands, etc. will influence tourism demand	Resource scarcity Loss of biological diversity
Lithosphere and hydrological systems	Topography, soil type, amount of precipitation will influence tourism demand	Soil erosion Resource scarcity
Atmospheric System	Temperature and air pollution may influence tourism demand	Air pollution

Although generic environment legislation is present in Rajasthan, there is currently no legislation that deals with the direct effects of tourism activity on the environment of the native place. Presently, the important environment related legislation that affects tourism are the policies of the Central and the State Governments concerning forests and other protected



areas. It is important to note here that these policies do not have any specific mention of tourism. In fact, there is a general tendency to discourage tourist activity in the forest and other protected areas to ensure preservation of the environment and ecological damage due to the influx of tourists.

### **Ecological Heritage of Rajasthan: Focus Areas for Environmental Control**

Rajasthan has rich and diversified social, ethnic heritage and distinct flora and fauna. It also has remarkably glorious history and tradition of sacrifices for the conservation of its rich biodiversity. The sentiments and traditional value system of protecting wildlife has been duly respected by its people, especially the tribal in the state. The State Government has accorded environment highest priority even today and the ban imposed on hunting since 1977 is in force to preserve the wildlife in the state.

The forests of Rajasthan cover an area of 31,900 Sq. Km., which is 9.32% of the total geographical area of the state. They are spread unequally in northern, southern, eastern and south-eastern parts of the state. Some of the biodiversity rich areas of Rajasthan, namely Keoladeo National Park in Bharatpur and Sambhar Lake in Rajasthan, have been declared as world heritage sites. Rajasthan has 4 National Parks and 25 Wildlife Sanctuaries identified by the State Forest Department. The total area of National Parks and Sanctuaries is 9161.21 Sq. Km., which is roughly 2.8% of the geographic area of the state or 30.2% of the forest areas in the state. Apart from the above, the Forest Department has also identified 32 closed areas in the state. These areas account for 4.3% of the total geographic area of the state. The vast floral and faunal diversity of the state is evident from the fact that there are about 2500 species of plants, 450 species of birds, 50 species of mammals, 20 species of reptile and 14 species of amphibians besides numerous species of insects, butterflies, micro flora and fauna. A large number of big and small water bodies scattered all over the state including the recently created wetlands along Indira Gandhi Nahar have also enhanced the habitat diversity in the state.

Though Rajasthan as a whole is characterised by arid land and desert, there are unique areas of spectacular habitats. The Thar Desert of Rajasthan has great significance supporting unique species of desert flora and fauna. It has typical desert life forms such as Desert Cat,



Desert Fox, Caracal, Indian Gazelle and Great Indian Bustard. The Semi-Arid Zone is a large transition area between the true desert and the seasonally wet peninsular India. The preponderance of grasses and edible shrubs in is a perfect habitat for Cheetal, Sambhar and Blue Bull.

There are several other species of great conservation significance, such as, Tiger, Leopard, Four Horned Antelope, Black Buck, Sloth bear, Jackal, Flying Squirrel among others. The Keoladeo National Park (KNP) at Bharatpur is amongst world's unique habitat for birds, particularly a paradise for water birds. Similarly, Chambal river is another unique wetland nurturing rich variety of aquatic fauna including fresh water Crocodile, Gavial, Gangetic Dolphin, Soft Shelled Turtle, Otters, a variety of endemic fish and other species.

### **State forest Policy**

The state has taken up various strategies, plans and programmes within the overall framework of the National Forest Policy with special emphasis on combating desertification, checking soil erosion and denudation with massive people's movement. The present forest area of the State is only 9.32% of its total geographical area, which is far below the national average. Considering the existing extent of forest area and availability of non-forest wastelands, it is felt that an estimated 20% of the state's geographical area can be brought under forest or tree cover by adopting appropriate technologies and providing required level of investment.

The existing area under various Protected Area Network (PAN) is 2.8% of the state's geographical area, which is close to that recommended by the Wildlife Institute of India for Rajasthan, which envisages 3.1% of geographical area of the state under PAN. World heritage sites like Sambhar Lake, other wetlands, sacred groves, locally called Orans and other similar areas rich in biodiversity provide ideal habitats to a variety of flora and fauna. On a conservative estimate these areas constitute about 1.8% of the geographical area. Some of these areas have been already declared as Closed Areas for the purpose of imposing ban on shooting of wild animals. These areas could be conveniently brought under scientific management for the purpose of biodiversity conservation. Considering all these aspects, the Forest Department of Rajasthan State proposes to have 4.8% of geographical area of the state for biodiversity purposes.

Some of the salient points of the state forest policy relevant to tourism are as follows:

- Conservation of unique rich heritage, cultural and ethnic tradition of conservation of floral and faunal diversity and gene pool reserves through a network of protected areas, such as National Parks, Sanctuaries, Biosphere Reserves and Closed Areas. Conservation of rare and endangered species of flora and fauna of the state by undertaking in-situ and ex-situ conservation measures and establishing linkages with the natural habitats of the species for their rehabilitation.
- Promoting eco-development around protected areas with the involvement of local people and NGOs.
- Extension and dissemination of research findings and proven technologies for adoption by the users, government, non-government and private individuals.
- Shifting the onus of management of forests from the traditional management practices to people oriented approaches by internalizing intensive and extensive participatory strategies in the working system of the Forest Department.
- Education and awareness raising through interpretation aimed at public appreciation of the importance of wildlife to human society.
- Bringing forestry close to people by creating massive people's movement with the involvement of women to minimize pressure on the existing forests.

As seen, the State Forest Policy addresses issues of community involvement in Conservation and that of education and awareness generation. These are inline with the overall objective of developing eco-tourism products in the state. However, given the growing trend of eco-tourism worldwide, there is a strong need to outline a specific framework which would address the eco-tourism development issues within the overall objectives of the Forest policy.

### **Eco-tourism in Rajasthan and its Sustainability**

In a state like Rajasthan recognized for its mass tourism, sustainable nature based tourism has been practiced for several decades within national parks and wildlife sanctuaries. However, the application of 'eco-tourism' label can be an ideological niche that can differentiate it from other forms of mass tourism.

Eco-tourism could actually improve the sustainability of tourism. The conventional line of thinking is that, greater the tourist inflow at a place, the more likely that the environmental and socio-cultural carrying capacity will be exceeded. The carrying capacity is not fixed but can be increased to a certain extent through appropriate management strategies.

- Eco-tourism can be effectively promoted in the state by identifying areas, which are quite rich in flora and fauna and providing camping sites to the visiting tourists so that they can enjoy the nature in its full glory.
- Trekking routes can be developed and safaris organized to give a real feeling of wilderness to the visiting tourists.
- Signages can be placed at strategic points to provide useful information to the visitor.
- Effective publicity by way of providing folders, maps, literature to the tourists would certainly generate the desired interest in the tourists to visit these places. This will serve a twin purpose; while new tourist spots will emerge on the state map, the pressure of tourist traffic on select sanctuaries and national parks will be dispersed.

Experiments involving local community have been carried at several locations in Rajasthan. Broadly classified as 'Rural Tourism' these projects are aimed at promoting community involvement in developing tourism in the state. Bishnoi villages near Jodhpur are a good example eco-tourism, which involves community initiative.

A total of 20 Eco-tourism projects to be implemented in the next 5 years have been proposed by the Rajasthan Forest Department. The estimated spend on the projects is close to Rs. 574 Lakhs with almost 50% investment coming in the first two years. The details of the investment allocation and phasing is provided in **Table -2**

Financial Allcation and Phasing for Eco-tourism Projects in Rajasthan							
All Figures in Rs, Lakhs							
S.No.	Name of PA/Spot	Year I	Year II	Year III	Year IV	Year V	Total
1	Jaisamand W.L.S. Udaipur	20.00	20.00	10.00	10.00	10.00	70.00
2	Sajjanganrh, WLS. Udaipur	10.00	10.00	10.00	10.00	10.00	50.00
3	Kumbhalgrah WLS. Udaipur	20.00	20.00	15.00	15.00	15.00	85.00
4	RaoliTodgarh WLS. Udaipur	15.00	15.00	15.00	10.00	10.00	65.00
5	Phulwari Ki Nal WLS. Udaipur	10.00	10.00	5.00	5.00	5.00	35.00
6	Mount Abu WLS. Sirohi	25.00	15.00	11.00	10.00	10.00	71.00
7	Desert National Park. JSMR	10.00	5.00	5.00	5.00	4.50	29.50
8	Talchappar WLS. Churu	4.00	4.00	4.00	3.00	2.00	17.00
9	Darrah WLS. Kota	4.00	4.00	4.00	3.00	2.00	17.00
10	Ramgarh Vishdhari, Bundi	5.00	5.00	5.00	5.00	3.50	23.50
11	Kankwan Fort. Sariska, Alwar	5.00	2.00	2.00	2.00	1.00	12.00
12	Kheechan, Phalodi	3.00	2.50	2.00	2.00	1.00	10.50
13	Myal Bagh, Jaipur	2.00	1.00	0.50	0.50	0.00	4.00
14	Tehla Fort, Alwar	5.00	3.00	3.00	2.00	1.00	14.00
15	Kushalgarh Fort, Sariska	5.00	2.00	2.00	0.50	0.50	10.00
16	Shergarh, Fort, Baran	5.00	2.00	2.00	1.00	0.75	10.75
17	Shergarh, Baran	5.00	3.00	2.50	2.00	2.00	14.50
18	Khandar Fort, SawaiMadhopur	5.00	3.00	2.50	2.00	2.00	14.50
19	Sorsan, Kota	3.00	3.00	3.00	2.50	1.00	12.50
20	Udgir Fort	3.00	2.00	2.00	0.75	0.50	8.25
	<b>Total</b>	<b>164.00</b>	<b>131.50</b>	<b>105.50</b>	<b>91.25</b>	<b>81.75</b>	<b>574.00</b>



## **5. SUGGESTED ENVIRONMENTAL CONTROLS FOR TOURISM PROJECTS IN RAJASTHAN**

Sustainability of tourism activity is highly dependent on how the activity can be woven into environmental and socio-cultural fabric of the native place at the same time adding to its economic development, whereby the local community derives maximum value from the same.

With proper ecological environmental controls, the threat to ecological balance could be mitigated. Some of the controls would be as mentioned below:

### **Forest Areas**

- Restricting development of facilities (roads, hotels, etc.) inside the protected areas. Allowing bare minimum civic amenities inside the protected area
- Restricting vehicles movement within the protected areas in a phase wise manner by Banning unescorted private vehicles from entering the protected areas.
- Replacing smaller vehicles (Jeep, Gypsy) with larger vehicles (Canter, Vans) to reduce the overall vehicles plying within the protected area.
- Eventually replacing all polluting vehicles with the non-polluting electric vehicles.
  
- Wherever possible, creating walk-ways, pre-marked nature trails, etc. that would aide smooth tourist flow within the protected areas and ensure less tourist nuisance.

### **Tourism Projects/ Products**

- **Hotels**
  - ✓ Subsidy on installation of ETPs & solid waste management system
  - ✓ Subsidy on installation of renewable energy equipment (solar cell, biogas, etc.)
- **Water tourism**
  - ✓ Demarking only non-sensitive areas for water sports activities

### **Urban Agglomerations**

- Development of region in a pre-planned manner so as to avoid concentrated tourist activity in a particular place thereby reducing the pressure on natural resources. For

example, develop tourist infrastructure in vacant areas around the main cities to reduce demand on the city's civic infrastructure and resources.

- Devise a plan for effective collection, treatment and discharge of effluents from settlements within the walled cities in the state. For example, in Jaipur, Udaipur, Jaisalmer, etc.
- Conservation of old/ walled cities through restriction of polluting vehicles within the precincts and by architectural controls and/ or restriction on new construction activity within these old/ walled cities
- Soil conservation activities such as plantation, forestation, etc. to be made mandatory for new tourism projects.

**Besides these measures the State Government to boost sustainable eco-tourism through community based conservation should also encourage the following:**

- ✓ Creation of participatory management institutions for every protected area
- ✓ Use of traditional knowledge in all respects of conservation
- ✓ Passing on various benefits of conservation to people
- ✓ Employment in wildlife programmes only to local people
- ✓ Access to information for local people

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