

## DEVELOPMENT OF ECOTOURISM IN KARNALA BIRD SANCTUARY OF RAIGAD DISTRICT IN MAHARASHTRA

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### ABSTRACT

*The government has taken adequate steps towards setting up many parks & sanctuaries to protect these regions and promotes these places as a tourist attraction. The Maharashtra state has varied and rich biodiversity. The state has five National Parks and more than 35 Wildlife Sanctuaries and protected areas. Wildlife is important for beauty, economic value, scientific and survival value. Therefore it is necessary to develop these wildlife sanctuaries from the view point of eco-tourism. In this paper an attempt has been made to study the development of eco tourism at Karnala Bird Sanctuary. The present study is based on primary and secondary data which is collected through questionnaire. Finally the collected information is tabulated, analyzed & the result has been presented in the form of graphs, tables and photographs & few suggestions for the development of eco-tourism in the study region.*

**KEY WORDS:** Eco-tourism, Sanctuary, National park, Biodiversity.

### INTRODUCTION

Tourism is one of the fastest growing industries in the worldwide. In this context, 'eco-tourism' is being promoted as a means of 'giving nature value' and hence of achieving sustainable tourism. The term 'eco tourism has been defined in many ways and is usually used to describe tourism activities which are conducted in harmony with nature. The environment is one of the primary concerns to eco-tourism, which often involves travel to relatively undisturbed areas. Ecotourism is the best option to take a break from the routine work and enjoy with nature. Ecotourism means minimize the ecological impact on the tourism which takes account of environmental, cultural and social consideration. According to the definition and principles of ecotourism established by The International Ecotourism Society (TIES) in 1990, ecotourism is "responsible travel to natural areas that conserves the environment and improves the well-being of local people". Konkan region is the perfect destination for the development of Ecotourism.

### OBJECTIVES:

The main objective of the study is to make a geographical evaluation of ecotourism in Karnala Bird Sanctuary. The specific objectives of the study are

1. To evaluate the present attraction in the study region.
2. To study the infrastructural facilities in the study region.
3. To highlight the efforts taken for the development of ecotourism.

## STUDY REGION

The Karnala Bird Sanctuary is named after the 'Fort Karnala', which is an important feature of this sanctuary and it is declared as a 'sanctuary' in the year of 1968. Initially, the notified area of sanctuary was 4.48 sq. km. In the year 2003, an additional area of reversed and acquired forest of villages from periphery, and now total forest area of this sanctuary is 12.10 sq. km. Out of which 6.6521 sq. km. area is reversed forest and 5.5473 sq. km. area is acquired forest. (Map-1) Karnala Bird Sanctuary is located in the Raigad district of Konkan region. It is situated 12 km away from Panvel town in Raigad district. Mumbai- Goa National Highway No.17 pass through Sanctuary. The geographical location is in between 18° 51' to 18° 54' North latitude and 73° 8' to 73° 10' East longitude. The sanctuary is about 85 m. above the MSL, and from this place; there is an uphill trail of about 3 km. & climb up to the fort. The Karnala Fort is at 445m above the MSL.

## CLIMATE

The mean annual temperature is 27 °c. & throughout the year the area is hot and humid except from December to February when it is comparatively cool and dry. Monsoon season is not suitable to visit for bird watching; trekking. Best time to visit is from October to April. During the winter season, great varieties of migratory birds visit to this place and it effects on other local birds. The migratory birds such as the blackbird, the blue-headed rock-thrush, the blue throat, the red breasted flycatcher, the ashy minivet, the black headed cuckoo-shrike and also number of resident birds.

## RAINFALL

The south west monsoon is the main source of rainfall in the area. The average annual rainfall is 3300 mm.

## TERRAIN

The Karnala Bird Sanctuary is located on totally hilly terrain, which consists of Moharmal, Garmal, Wontok, Sardamal and Karnala Fort. The entire area of sanctuary forms a part of catchment of Patalganga River.

## THE FLORA AND FAUNA

The Karnala Bird Sanctuary is rich in flora and fauna diversity. As per information given by forest dept, there were 642 species of trees which are of mostly deciduous types. It is characterized by species Koshimb, Mango, Kula, Kalam, Asana, Umber, Teak, Dhavada etc. The sanctuary is a home for over 147 species of resident and 37 species of avian migrants can be seen at the sanctuary. These migratory birds visit the sanctuary during winter season. There are two rare birds named Ashy **Minimet** and **Spotted Heart Woodpecker** are sighted in sanctuary. Tourists are really happy while hearing the birds singing in the dense forest. It has two distinct seasons for bird watching. Some of these species are Emerald Dove, Racket Tail Drongo, Crested Serpent Eagle, Shaheen Falcon, Indian Gray Hornbill, Three Toed Kingfisher, Blach Headed Oriole, Green Pigeon, and Indian Pitta, Shama etc. As many as 67

types of birds have been sighted by bird watchers on a single visit. The sanctuary is also a home for the animals such as Four- Horned Antelope, Wild Boar, Common Langur, African Monkeys and Barking Boar etc.

## PRESENT ATTRACTION IN SANCTUARY

At present a few tourist attractions in the Karnala Bird Sanctuary have been described into the following ways.

### 1. THE KARNALA FORT

The main attraction in Karnala Bird Sanctuary is “Karnala Fort”. There are great stones of the spur, to the north East Mountains of Matheran from the fort, to the east Manikgad fort, Dukenose cliff of Sahyadri Mountains and the industrial region of Rasayani, towards south-west Mirya mountain of Pen and Patalganga River, towards western side Ransai dam and JNPT area are easily sighted. The area in 12km Radius form the fort is clearly visible and therefore it was useful as watch tower up to the sea coast and for other areas for surveillance. Krantiveer Vasudev Balwant Phadke’s grandfather was fort keeper of Karnala fort till 1818. Therefore, the Karnala fort is great historical significance & this fact also needs to be highlighted. Karnala fort, a historically very important feature of the Sanctuary has been major attraction for tourists and trekkers. This area is well known for tourism.

### 2. FLORA AND FAUNAL ATTRACTIONS

The scope of the Karnala bird Sanctuary is very vast, as forest of Karnala is rich in floral diversity. There are three types of forest are occurred in this Sanctuary viz.

- 1) Moist mixed tropical deciduous forest, covering almost entire area (89 %)
- 2) Small patches of moist teak forest (11 %)
- 3) Riparian fringing forest along the stream and nalas.

Area covered by reserve forest is about 54 % of the total area covered by the Sanctuary. The species in the forest are mixed. The Karnala Bird Sanctuary having 642 species of trees. The floral diversity can be sub divided in to five categories-

1. Trees
  2. Shrubs
  3. Herbs
  4. Climbers
  5. Grasses
- Some of these are Ain (*Treminalia crenulata*), Kusum (*Schleichera oleosa*), Hirda (*Terminalia chebula*), Adulsa (*Adhatoda vasica*), Ranmodi (*Eupatolium glandulosum*), Dhotra (*Datura innoxia*), Lichi (*Urena tobata*), Takala (*Cassia tora*), Gunja (*Abrus precatorius*), Morvel (*Clematis triloba*), Gulvel (*Tinospora cordifolia*), Marvel (*Andropogon annulatus*), Kunda (*Ischaemum pilosum*), etc. floral diversity is occurred in this sanctuary.

### 3. INFRASTRUCTURAL FACILITIES

The KBS has inadequate infra structural facilities. Mumbai – Goa National Highway No-17 pass through this sanctuary. The following facilities are below

- ❖ **Forest rest house & Cottage:** -The rest house is primarily meant for forest officer but it is made available for tourists on request. In rest house two VIP rooms & two common rooms are available.
- ❖ **Nature Information Centre:** This centre gives information about flora & fauna of sanctuary. It is helpful for awareness amongst visitors about nature conservation.

Before watching birds; first of all, visit that centre for how to indentifying the name of birds and Forest Ranger provides Binocular also.

- ❖ **Nature Trails:** Nature trails mostly used for bird watchers & nature lovers. Hariyal, Mortaka, Garmal trails are developed in sanctuary.
- ❖ Toilet, bathroom & drinking water facilities etc, all facilities are available in the sanctuary.

## POTENTIALS IN SANCTUARY

The Karnala bird sanctuary consists of major potentials for the tourist's attraction. Some of the potentials are

- Sanctuary area is having potential to act as an open laboratory for researcher and especially for students of Botany, Zoology & Geography from adjoining Universities.
- To conduct the lecture on “Significance of Flora & Fauna” on the occasion of ‘World Environment Day’ on 5<sup>th</sup> June.
- Honey industry should be developed.
- Rope way facility should be developed in Karnala fort
- This sanctuary has developed as an ecotourism spot.
- To arrange and invite speakers for delivered a lecture on how to conserve forest, birds, species of plants etc.
- Celebrate World Wildlife Day Week (1 to 7 October)

## POSITIVE IMPACTS

Karnala bird sanctuary is one of the attractions of bird lovers and Karnala fort is also attraction of trekkers and climbers.

1. Eco tourism spot
2. 642 species of trees
3. 147 species of resident birds and 37 species of migratory birds.
4. Healthy and peaceful environment
5. Bird watching
6. Mixed deciduous forest
7. Nature's trail
8. Nature information display
9. Cooperative staff
10. Variety of Medicinal plants are available
11. Easily food is available

## NEGATIVE IMPACTS

1. Illegal collection of fire wood from forest areas by local villagers.
2. Illegal forest fire especially in sanctuary in summer season

3. Tourists throw wastage food, water bottles due to this increase in unexpected number of dogs, crow and monkeys, ultimately air & land pollution was increased.
4. Panvel – Goa National Highway No-17 passes through sanctuary that is why air, sound pollution increases and to disturb the behaviour of birds as well as wild animals.
5. Weed of Ranmodi (*Eupatorium glandulosus*) have been increases which are supporting the natural regeneration.
6. One lady guard may be appointed for catching the wood cutters.
7. There is no guide facility for introducing nature lovers and bird watchers.

#### **REMEDIAL MEASURES FOR DEVELOPMENT OF ECOTOURISM:**

1. To built safety wall compound along the highway side.
2. To release the snakes in the sanctuary, ultimately to conserve the forest or to minimize the wood cutting.
3. Instruction board for visitors should display near the entry point and another places.
4. To display boards about the ‘control blowing horns’ along the 500 m of both the highway side.
5. Nature Information Centre should be developed.

#### **ECOTOURISM AT KARNALA BIRD SANCTUARY:**

As per the guidelines issued by Central Govt., Karnala Bird sanctuary is declared as a Eco sensitive zone from the year 2004 as around 10km from the Karnala Bird sanctuary. As per the guidelines, Karnala Bird sanctuary fulfill three aspects of ecotourism i.e. ecosystem conservation, local benefits and environmental education. To ensure and fulfill the indicators of ecotourism in Karnala Bird sanctuary following measures should be taken

1. **Restriction of vehicles:** Four wheeler are not allowed in the sanctuary but only motorcycles permitted inside the sanctuary. The four wheeler parking provides at the entry point. Pay and park facilities are provided to tourists like Rs.50/- for car and Rs. 15/- for motorcycle are taken as an environmental tax and it is utilized for forest conservation.
2. **Forest Conservation Programme:** To promote wildlife awareness among the local people and tourists. The forest department have been arranged programme such as Nature camp, Massive Tree Plantation, Celebrate Wildlife Week and World Environmental Day, Nature Information Center, etc.
3. **Nature Information Center:** This sanctuary are thick flora and fauna, predominantly forests and fort, environment awareness and natural interpretation centers are planned to be set up to study ecological diversities in the region. Nature interpretation center will help provide information about flora and fauna in the region through pictures audio-visuals, posters etc.

#### **CONCLUSIONS:**

From the above information, the main attraction of sanctuary is avifauna and Fort. It is clear that the ecological environment in ecotourism setup is very peaceful. Karnala Bird



Sanctuary has great potential in view of ecotourism. It has unique diversity of flora and fauna. Tourists enjoy with peaceful environment and also really happy while hearing and at the time of birds singing. This sanctuary is a great potential for researchers like Botany, Zoology and Geography students. During holiday, weekend, bird lovers and trekkers are attracting towards this sanctuary. Many local people are engaged in tourism related activities. Karnala Bird Sanctuary is perfect ecotourism spot as developed as an environmental education.

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