

Biotic factors affecting on biodiversity of VANSDA NATIONAL PARK

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ABSTRACT:

A present investigation was conducted to study the Biotic factors affecting VANSDA NATIONAL PARK. The biodiversity of plants is affected by numerous biotic factors, a few insects, including bees, moths, butterflies, animals and man. five sites of VANSDA NATIONAL PARK were selected in the present study. The main biotic factor influencing Vansda National Park's biodiversity is man. Vegetation is severely harmed by herbivorous animals that consume green plants directly.

KEY WORDS: Biotic factor, Biodiversity, Herbivorous

INTRODUCTION:

Gujarat has the most geographically distinct zones of any Indian state, which is a clear indication of its significant biological variety. The area of ecology that deals with identifying, analyzing, and categorizing plant communities made up of a variety of Sp. which is held together by shared ecological tolerances to form a community and which lives in an environment. Phytosociology is the study of plant community structure. It is helpful to gather this information through research on plant phytosociology in order to describe the population dynamics of each species under study and how those species interact with one another in the same community.

Physical or abiotic factors like substrate, a lack of moisture, wave movement, or another biological mechanism all have an impact on how biotic communities behave. Communities that are subject to biological regulation are frequently impacted by a single species or by a swarm of species that alter the environment. These organisms are known as dominants; for instance, huge trees are dominant in forest communities, whereas shrubs and plants are typically subdominant.

It's possible for the biotic factor to be direct or indirect. The biotic interactions were divided into two broad categories by Odum (1971): interactions that are both positive and negative.

Positive interaction, such as reciprocity, mutualism, and commensalism, refers to the assistance provided by one interacting species to the other. A negative interaction occurs when one of the interacting species suffers. Competition, predation, and antibiosis are a few examples of how one party could be damaged, benefited, or neutral.

The biodiversity of plants is influenced by numerous biotic variables. a few insects, including bees, moths, and butterflies. Cross pollination is caused by birds, who use nectar, pollen, or other items as food sources. Mammals and birds have a significant role in the movement of plants. Ingested seeds are eaten and safely

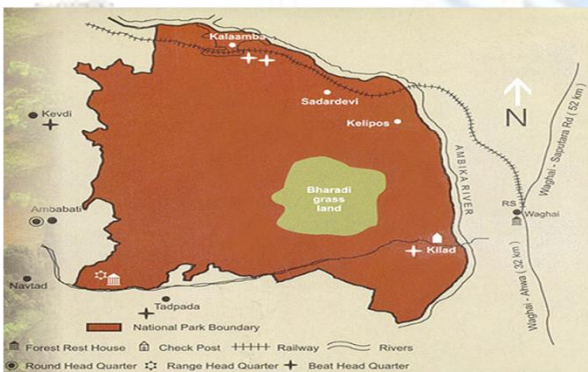
expelled with the faces, whereas seeds that are clinging to feathers or fur become attached to fruits or even entire plants.

Vansda National Park covers a 24 km² area and was created in 1979. The location of Vansda National Park is between 20° 51 '16" and 21°21'22"N and 73°20'30" and 73°31'20"E. Vansda National Park has a region of 23.99 km² in south Gujarat's Navsari District and Vansda Taluka. The terrain surrounding Vansda National Park is hilly, with elevations between 110 and 360 m. Sahyadri Range highlands extend into Vansda National Park. The Ambica River and Dang Forest border the east side of Vansda National Park, while the Navtad-Kalaamba Road borders the west. The Ambica River and Waghai-Bilimora Railwayline are on the northside, and Vansda Reserve Forests are on the south.

A section of the Dangs, Valsad, and Uni Range forests in the Surat district make up the Vansda National Park. a region with somewhat steep hills.

Following five sites were selected in the present study (Map 1).

- 1.Kalaamba
2. Sadardevi
3. Kalipos
- 4.Bhaarad grassland
- 5.Kilad



MATERIALS AND METHODS:

A survey of the biotic factors affecting the biodiversity and plant ecology of VASADA NATIONAL PARK will be conducted as part of the work.

RESULT:

The main biotic factor influencing Vansda National Park's biodiversity is man. He uses plants for a variety of things, including food, fuel, structures, and medicines.

Man manages the plants for his own benefit. In numerous ways, he controls the life of the plants. He has brought almost all of the area under agriculture. The natural vegetation is being removed by man, and after providing perfect conditions, crops are being grown everywhere.

The forest at Vansda National Park is home to numerous valuable species. The villagers of the Vansda National Park used wood as a fuel source. From farms, fields, and forests, people gather fuelwood. Many residents of the village harvest and sell fuel wood.

DISCUSSION:

One issue with using biodiversity in local communities is identifying prospective economic species and understanding their ecology, biology, market demand, supply trends, and land use (Tewari and Singh, 1981).

NSANYI SAINGE(2012) According to Moses, the most significant causes affecting the region's ecological variety were forest disturbances like hunting, cattle grazing, illegal timber harvesting, and agricultural encroachment. Due to a shortage of health units, the population is heavily dependent on the harvesting and use of NTFPs.

A 2008 study by the Gujarat Forest Department found that some pharmaceutical companies use 37.5 lakh kilogrammes of plant components annually. Everyone uses the majority of *Terminalia bellerica* and *Terminalia arjuna*. Then comes, which 80% of the pharmaceutical businesses use. The survey also revealed that these units are experiencing the shortage of raw material for the plant products from species like *Aegle marmelos*, *Gmelina arborea*, *Steteospermum Suaveolens*, *Desmodium gagicum*, *Oroxylum indicum*, *Clerodendrum multiflorum* (Burm.f.), *Solanum indicum*, *Solanum surattens*, *Tribulus terrestris*, and *Uraria picta* forming the dashmoola group of species. It is also important to note that, according to the survey, 90% of these medicinal plant species are taken in the wild, primarily from forest areas, and the natural resource base now in place is insufficient to meet the expanding demand.

The main biotic factor in the current study affecting the biodiversity of Vansda National Park is man. He uses plants for a variety of things, including food, fuel, structures, and medicines.

Man manages the plants for his own personal gain. In countless ways, he controls the life of the plants. He has brought the majority of the area under crop production. After creating favourable conditions, man is clearing the surrounding natural vegetation so that crops can flourish everywhere.

The forest at Vansda National Park is home to numerous valuable species. The villagers of the Vansda National Park used wood as a fuel source. From farms, fields, and forests, people gather fuelwood. Many residents of the village harvest and sell fuel wood.

Since many fruits are edible, they are consumed as food instead of the seeds, which results in a poor germination rate for many plants. These plants are *Tamarindus indica*, *Annona squamosa*, *Zizyphus jujube*, and *Pithecellobium ducle*.

Vegetation is severely harmed by herbivorous animals that consume green plants directly. The leaves, blooms, and seeds of the plants are diminished by grazing and browsing. The *Acacia nilotica*, *Pithecellobium ducle*, *Tamarindus indica*, *Zizyphus jujube*, and several grasses are among these plants.

CONCLUSION

The forest at Vansda National Park is home to numerous valuable species. The villagers of the Vansda National Park used wood as a fuel source. From farms, fields, and forests, people gather fuelwood. Many residents of the village harvest and sell fuel wood. Vegetation is severely harmed by herbivorous animals that consume green plants directly. Many fruits are edible, they are consumed as food instead of the seeds, which results in a poor germination rate for many plants.

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