

Gupteswar Biodiversity Heritage site declaration final application submitted to Odisha Biodiversity Board on 2nd of September by MSSRF

Gupteswar Siva temple cave, a pilgrim site which is about 55 km from Jeypore, Koraput district is surrounded by dense forest having very rich biodiversity of many rare and endemic species of flora and fauna. For this region MSSRF closely work from 2018 along with Haldikunda Biodiversity Management Committee (Gupteswar Panchayat) to declared Gupteswar Biodiversity Heritage site. Finally, from MSSRF site Dr Kartik Lenka took a lead role to submit the application through Grama Sabha, followed by forest department and MSSRF nomination form along with all necessary information for declaration as Biodiversity Heritage site which is covered 350 hecters of forest area under Jeypore forest division of Koraput district.

Some importance Information about this site: The mythological, cultural, and Biological significance always drags the attention of naturalist, philosopher, researcher, and tourist to this mesmerizing serene environment of Gupteswar Shiva temple. “Gupteswar” means the “Hidden God” where the temple was hidden in the cave for a very long period. Locally it is also known for its limestone cave and gigantic Shiva Linga which is said to be increasing in size. As per mythology, Gupteswar was first discovered by Lord Rama when he was roaming in the Dandakaranya forest along with his wife Devi Sita and brother Lakshman during his fourteen-year hermitage, which is scripted in the Ramayana. But as per another legend this place was discovered by a tribal hunter from Durua caste in the 19th century, after which the tribal people of the area started worshipping Lord Gupteswar. Since, it is a holy place devoted to lord Shiva, a large number devotes come here to rejoice the holy month of Sravana and also in Shiva Ratri across the state of Chhattisgarh, Andhra Pradesh and Telengana. As this place is considered as an alternate Jyotirlinga, the Gupteswar temple draws over two lakh of devotees from Andhra Pradesh, Chattisgarh and Telengana apart from the state, during Maha Shivaratri.

Beyond its cultural and mythological significance, Gupteswar derives its allure from its biological diversity. The arid deciduous forest and subterranean flora within this elevated ecosystem harbour a wealth of exceptional, indigenous, and endangered plant and animal species, notable for their evolutionary importance. Additionally, the area hosts wild progenitors of domesticated or cultivated species, including those culturally esteemed. The forest stands as a bountiful repository of non-timber forest commodities, such as Jhuna, Lakha, and the leaves of *Shorea robusta* and *Diospyros melanoxylon*, bestowing a livelihood source upon the local populace.

The region multitudes six distinct primitive tribal communities, whose sustenance predominantly revolves around the cultivation of landrace varieties of rice, alasi, maize, and millets, thereby fostering a repository of robust genetic resources within the agricultural crops. The indigenous farming practices of these local communities are firmly rooted in traditional methodologies, encompassing disease and pest management, crop safeguarding, production techniques, and other agricultural facets. Notably, the genetic diversity inherent in their crops, such as wild ginger (*Zingiber chrysanthum*), Wild Turmeric (*Curcuma angustifolia*, *C. aromatica*), and others, renders them resilient against a spectrum of biotic and abiotic stressors. These traditional crop species, alongside their wild counterparts, offer elevated nutritional value when compared to domesticated varieties, with a gamut of micro and macro-nutrients, essential vitamins, and pivotal roles in safeguarding natural resources, local agriculture, and food production.

Beyond this, the faunal assemblage within this region encompasses a diversity of notable proportions, comprising 28 species of Mammals, 188 species of Avifauna, 45 species of Pisces, 48 species of reptiles, 18 species of Amphibia, 141 species of Butterfly, 43 species of Moth, 41 species of Odonates, 30 species of Spider, six species of Scorpion and 20 species of lower invertebrates.

The floral diversity within this site is characterized by a rich assemblage, encompassing a total of 518 species of angiosperm (consisting of 182 trees, 76 shrubs, 69 climbers, and 117 herbs), alongside one gymnosperm species, 13 fern species, 94 medicinal plants, 20 species of bryophyte, 15 lichen species, and 44 macro-fungi species (including 15 edible varieties). Notably, among these, 16 species are categorized as threatened.

Ecological eminence of this region is epitomized by the presence of notable faunal treasures, including the Mugger (*Crocodylus palustris*), Sacred Grove Bush Frog (*Raorchestes sanctisilvaticus*), Asian Small-clawed Otter (*Aonyx cinerea*), Leopard (*Panthera pardus fusca*), Alexandrine Parakeet (*Psittacula eupatria*), and Striped Hyena (*Hyaena hyaena*). Out of 608 faunal species, **15 reside within threatened categories**, with some species being endemic to Odisha. A significant contribution for the biodiversity of this region is **the first report of the Kanger Valley Rock gecko (*Hemidactylus kangerensis*) in Odisha**. The Marbled Map butterfly (*Cyrestis cocles*), a rare species frequent in the North-east region, is a scarce sight in the Eastern Ghats and Odisha. Revered as a sacred abode, this holy place also harbours eight endemic bat species, including two threatened ones *Hipposideros galeritus* and *Rhinolophus rouxii*. This realm serves as a distinctive habitat fostering the proliferation of diverse floral and faunal ensembles, encompassing mosses, orchids, ferns, lichens, amphibians, reptiles, birds, and arthropods, bearing resemblance to high-altitude biodiversity.

A thorough survey conducted by the Odisha Biodiversity Board has meticulously catalogued a total of 615 distinct floral species. Notably, this floral diversity includes two plant species exclusive to the confines of Odisha, thereby amplifying its ecological importance. Furthermore, 16 plant species has been classified as threatened, emphasizing the imperative for conservation endeavours. Another particular significance is the inclusion of 94 plant species within this assemblage, recognized for their invaluable medicinal attributes, which hold potential for both traditional and modern healthcare applications within the site.

Different types of environmental pressure like climate change, invasive species, natural disaster and different types of pests and diseases affect the biodiversity of this region negatively. Climate change is a biggest threat to the present day bio-diversity. Due to climate change, issues like over and under rainfall, high temperature occurs leading to degradation of top fertile layer of the soil which results in the loss of ground microbial and faunal diversity along with natural disaster like landslides. Also under rainfall along with high temperature in this region causes massive decrease in ground water level that negatively affects flora, fauna and agro diversity. Apart from this various types of pests and diseases affect the floral as well as Agro-Biodiversity of this region.

The threatened and endemic biological resources are under severe threats due to lack of awareness, unsustainable harvesting of bioresource by the local inhabitants, and extensive grazing of buffalo, cattle, and goat. The unregulated tourism activities are also an emerging threats for the surrounding environment of the proposed BHS.