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# Review Paper Coastal Sand Dunes - Potential sites for development of Hydrogeo-Ecotourism

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#### Abstract

Ecotourism is a form of tourism involving visiting fragile, pristine, and relatively undisturbed natural areas. The term Hydrogeo-Ecotourism is proposed for the first time to promote hydrogeological and geomorphologically focused sustainable ecotourism on the sand dunes along the coast and other water bodies like natural springs. Sand dunes preserve fresh rainwater adjacent to coast where salinity hazard is very common. Because of availability of fresh water in sand dunes there is growth of dense vegetation. Temples are also situated and because of the scenic beauty forms potential tourist spot. Famous Lord Jagannath temple of Puri is situated on sand dunes. The natural springs present in hilly areas have scenic beauty which can be developed for Hydrogeo-Ecotourism. Promotion of sustainable Hydro-Geoecotourism along water bodies can help promotion as well as preservation of the areas without disturbing the ecosystem.

Keywords: Hydrogeo-Ecotourism, sand dunes, springs, exploitation.

### Introduction

Ecotourism is a form of tourism which promotes tourism in any area without affecting the ecosystem. Ecotourism leads to economic growth as well as visiting virgin new landscape with least impact on flora and fauna. It promotes recycling, energy efficiency, water conservation and ultimately sustainable development. Also it enhances the cultural integrity and creation of economic opportunities for the local communities<sup>1</sup>. Here emphasis was given for promotion of Hydrogeo-Ecotourism adjacent to water bodies such as along coasts, springs and old heritage tourist spots.

#### **Results and Discussion**

The term Hydrogeo-Ecotourism is proposed for the first time to promote hydrogeological and geomorphologically focused

sustainable ecotourism on the sand dunes along the coast and other water bodies like natural springs. Sand dunes are coast elongated and elevated features which retains fresh parallel water where salinity hazard is common<sup>2</sup>. Due to high porosity and permeability, the sand dunes form very good fresh water aquifers. Though sand dunes are located adjacent to coast the electrical conductivity of water is generally less than 600 microsiemens/cm as it preserves the rainwater which is potable. Because of the fresh water sand dunes are inhabited by many types of flora such as cashew, casurina, kewra, coconut, neem, palm, mango etc. The sand dunes in southern coast of Ganjam district also contain substantial amounts of heavy minerals like monazite, zircon, ilmenite, rutile and sillimanite. They are also binded by different sand binding species. Photographs of sand dunes are given in figure-1 figure-2 and figure-3.



Figure-1 Temple situated on sand dunes along east coast of India, southern Orissa Town of Gopalpur



Figure-2

Dhabaleswar sand dunes along east coast of India showing fisherman's boat, southern Orissa town of Gopalpur



Figure-3 Beach ridge (sand dunes) showing mouth of Chilika Lake

Since the 1980s ecotourism has been considered a critical endeavor by environmentalists, so that future generations may experience destinations relatively untouched by human intervention. Ecotourism is visiting to remote, pristine areas without disturbing the ecology. It explores new areas of tourism as well as provides financial benefit to the local people and ultimately ecological conservation. It integrates people from different regions, culture and emphasizes on sustainable development of tourism. Responsible ecotourism programs include those that minimize the negative aspects of conventional tourism on the environment and enhance the cultural integrity of local people. Therefore, in addition to evaluating environmental and cultural factors, an integral part of ecotourism is the promotion of recycling, energy efficiency, water conservation, and creation of economic opportunities for local communities <sup>3</sup>.

Geo Tourism is purely geological and geomorphologically focused sustainable tourism was first defined by Hose, 1995 in England. The definition geographically sustainable tourism is also used for Geo Tourism. A form of natural area tourism that specifically focuses on landscape and geology. It promotes tourism to geosites and the conservation of geo-diversity and an understanding of earth sciences through appreciation and learning. The emphasis is on attracting visitors primarily based on existing natural features, with the intent of fostering appreciation and learning. While it can include patronage of visitor centers, guided tours and talks, it can involve more physical challenges such as triathlons and obstacle races. Geographic elaborates by saying National Geotourism "emphasizes the distinctiveness of its locale, beneficial to visitor and resident alike", and there is community involvement and also community benefit<sup>4</sup>

Sand dunes have natural scenic beauty which can be developed for Hydrogeo-Ecotourism which can be helpful for the local community for better livelihood and also conservation of sand dunes. Due to sand mining for different construction activities the sand dunes are destroyed as well as the vegetation. Sand dunes act as buffer zone between the sea and inland during tsunami, cyclone, sea waves and high tides. Many temples are situated on the sand dunes in the east coast of Orissa which has religious importance such as Kantiagarh, Dhabaleswar, Ramchandi and Alarnath. Sanddunes are also well developed around the Chilika Lake. The Lord Jagannath Temple of Puri is located on a older sand dunes. As per tradition water collected from dug wells in the temple premises are used for worshipping Lord Jagannath and preparation of Mahaprasad. Due to indiscriminate exploitation the sand dunes are in danger. The coastal sand dunes along the coast can be developed for the purpose of Hydrogeo-Ecotourism which shall help ultimately in their conservation and balance in the ecosystem. Hydrogeo-Ecotourism can also be developed around natural springs which have very beautiful landscape and present in hilly areas.

## Conclusion

Hydrogeo-Ecotourism can be developed nearby water bodies such as coasts and springs etc. The natural springs are present in remote hilly areas. Springs in hilly areas have scenic beauty and rich in biodiversity<sup>5</sup>. Sustainable development of tourism in these areas can help in conservation of the areas. In some places ancient temples are situated and availability of funds can help to conserve these ancient heritage structures. With socio-economic development of people and the will to travel to new destinations Hydrogeo-Ecotourism has lot of potential in 21<sup>st</sup> century.

### References

- 1. http://www.ecotourisminindia.com/ecotourism.html (2015)
- 2. Naik P.K., Hota Rabindra Nath, Geomorphological study of sand dunes with special reference to their Hydrogeology in southern coast of Odisha, India, *International Research Journal of Earth Sciences*, **2**(9), 15-21 (2014)
- 3. http://en.wikipedia.org/wiki/Ecotourism (2015)
- 4. http://en.wikipedia.org/wiki/Geotourism (2015)
- 5. Naik P.K., Saving the natural springs in the mining hilly tracts of Joda-Badbil-Koira area of Orissa, *Current Science*, 94(9), 1111 (2008)