

## Chapter 65

# Reigniting GIS's Application in Ecotourism: A Case Study of Sundarbans in Bengal

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### ABSTRACT

*The chapter brings out a brief note on the tourist attractions, hotels and lodges, NGOs/travel agencies operating in that region, railway/bus stations, land use profile, etc. in the Sundarban area of West Bengal in conjunction with exploring the potential of ecotourism using GIS and some secondary source data. Moving onto the analysis part, by making use of geo-spatial data, the attributes of ecotourism potential in the Sundarbans has been explored. The author makes use of the Euclidean distance mechanism and principal component analysis to rank the ecotourism sites in Sunderbans (i.e., based on the construction of ecotourism potential index [EPI]). The novelty of the chapter lies in comparing the ranks obtained by constructing the EPI following the principal component analysis and the Euclidean distance function. It needs to be mentioned here that these tourist spots have been selected based on the information collected on the inflow of both domestic and foreign tourists to these spots. The chapter concludes by discussing the future scope of research in this regard.*

*All you need is the plan, the road map, and the courage to press on to your destination. — Earl Nightingale*

### INTRODUCTION

Geographic Information System (GIS) uses a convex combination of various disciplines which include geography, mathematics, statistics, computer science, management and mapping science. On the basis of collected geospatial data, the technology offers a dynamic analysis for not only research but serves as a decision making instrument in the context of urban planning, disaster prevention and mitigation, tourism and other commercial areas, etc. An advanced form of GIS in this context is — Web based Geographic

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## ***Reigniting GIS's Application in Ecotourism***

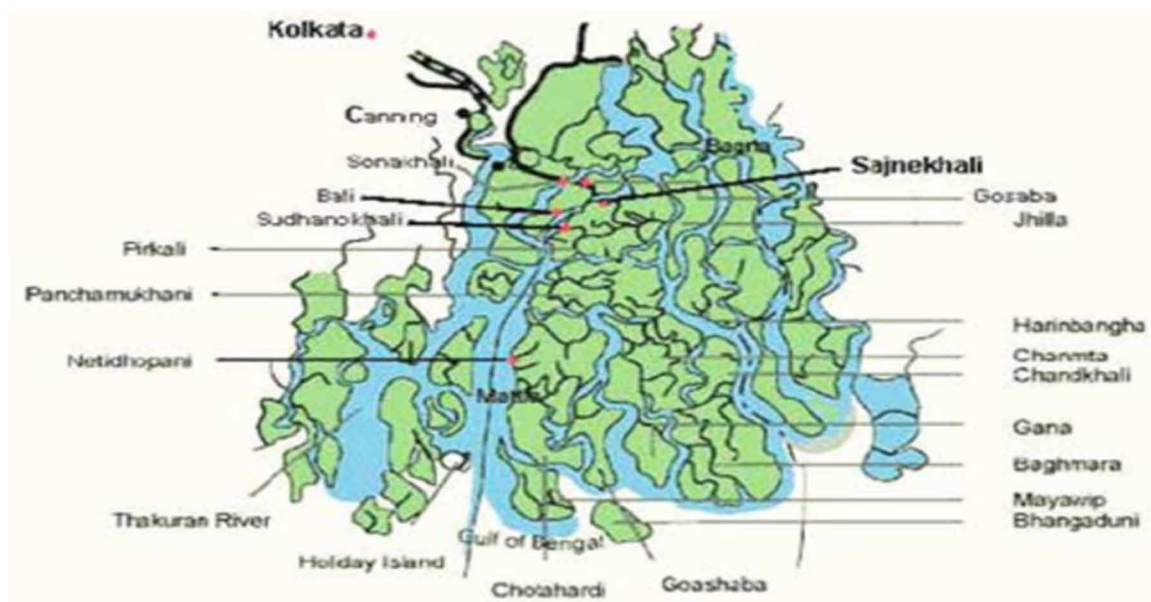
Information System (WGIS). It is fast becoming an effective tool for tourism and has developed itself into a platform that encourages ecotourism by bringing in the notion of area assessment, service management, resource use management, visitor flow management, and assessing impacts of the development of tourism. Therefore, the prospect of GIS applications in ecotourism is noteworthy. The study brings out a brief note on the tourist attractions, hotels and lodges, NGOs/travel agencies operating, railway/bus stations to land use profile, etc. in the Sundarbans in conjunction with exploring the potential of ecotourism using GIS based data. It should be also noted that this study will frequently make use of satellite data on digital image classification.

To introduce the readers to the landscape of Sundarbans, the study area of the Indian Sundarbans is of 130 kms in length out of the total 180 kms of total coastal length of West Bengal.

The location of Sundarbans in the Indian part is between  $21^{\circ}$  to  $22^{\circ}$ -65' N and  $87^{\circ}$  to  $88^{\circ}$ -93' E. Indian Sundarbans covers the areas of south-eastern part of both North and South 24 Parganas in West Bengal. Southeast extreme region of three districts namely Satkhira, Khulna and Bagerhat constitute the Bangladesh part of Sundarbans. The entire Indian Sundarbans covers an area of 9630 sq.km out of a total area of 25500 sq.km and the remaining part lies in the area covered by the Sundarbans in Bangladesh. The main objective of this paper is to select a few tourist spots in Sundarbans and draw out the potential of ecotourism based on a set of three parameters, i.e. the number of foreign and domestic tourists visiting the spots, number of Local/ NGOs/Government agencies participating and infrastructure availability.

Coming to the profile of the tourist spots that the author has selected in this regard. One can refer to the location map of Sundarbans in Figure 1 to pinpoint the exact location of these places within the periphery of Sundarbans. The first spot selected is the Sajnekhali Watch Tower at Sajnekhali which is about 130 kms from West Bengal, located at the confluence of River Matla and Gumdi. It is one of the most renowned places to visit in Sundarbans and the head office of the forest department is also located

*Figure 1. The Location Map of Sundarbans, India*



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