

## About ENVIS (Environmental Information System)

Environmental information plays a vital role not only in formulating environmental management policies but also in the decision making process aiming at environmental protection and improvement of environment for sustaining good quality of life for the living beings. Hence, management of environment is key component and thus plays an important role in effecting a balance between the demands and resources available for keeping the environmental quality at a satisfactory level. Realizing such need Ministry set up an Environmental Information System (ENVIS) in 1983 as a plan programme as a comprehensive network in environmental information collection, collation, storage, retrieval and dissemination to varying users, which include decision-makers, researchers, academicians, policy planners and research scientists, etc. ENVIS was conceived as a distributed information network with the subject-specific centers to carry out the mandates and to provide the relevant and timely information to all concerned.

The ENVIS Centre was established at the Sálim Ali Centre for Ornithology and Natural History (SACON) in the year 2004. The centre collects, collates, disseminates information on various facets of Wetland Ecosystems including Inland wetlands.

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#### FOREWORD

Wetlands over the world were once considered as one of the least important ecosystems and were the first to face the impact of developmental changes and among the most threatened ecosystems in the world. In India, too wetlands were seldom accorded due importance despite the fact that the wetlands form a direct means of livelihood and wellbeing to the rural populace, while the urban population is indirectly but crucially dependent on it for many ecosystem goods and services. However, the last couple of decades have seen the significance of the ecosystem goods and services being increasingly recognized. While the government of India has been one of the original signatories to the Ramsar Convention, the world body for conservation of wetlands, the importance of wetlands is yet to percolate down to the stakeholders, the public and local administrators, who play decisive role in the sustenance of each of the wetlands spread across the country. Consequently, the threats to the wetlands were increasing day by day and the wetlands were diministring at a fast pace. It is imperative that the value of wetlands and means to strategically manage them to ensure long term sustainability while deriving the economic and ecological benefits reaches far and wide.

The Government of India has been committed to blend development and conservation. Over the years, it has implemented several rules, regulations and acts, the most recent one being the Wetlands (Conservation and Management) Rules, 2010 meant to ensure sustainable utilization and conservation of wetlands. The government of India is also funding conservation efforts of 115 lakes of National importance under the National Wetland Conservation Program. Being a signatory to the Ramsar convention India has been distinguishing its prominent wetlands as Ramsar sites of International Importance. Of these, the latest one is the Nai Sarovar in Gujarat, a bird's paradise. So far with 26 wetlands designated as Ramsar sites the country is committed to the protection of the wetlands and ensures that the humankind does not lose out the invaluable ecosystems services provided by these ecosystems.

Sálim Ali Centre for Ornithology and Natural History has been a premier research institute working on several aspects of Ornithology and Natural History. Now in its 25" year, since inception it has greatly supported the ministry in its conservation efforts, policy planning and advocacy. This book "Glimpses to the Biodiversity of Ramsar sites in India" is one of its efforts in showcasing our wetlands while screading the message of conservation of these vital and critical habitats in India.

While I am happy to introduce this book, I congratulate the team for their efforts in bringing out this book in a user friendly manner. I am sure this book will be of immense use to academicians, researchers, students, policy makers as well as lay person and promote sustainable tourism and conservation of this invaluable amazing ecosystems.

Place:

New Delhi November 24, 2015

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### JUNITER ODDUCTEION

From time immemorial, humans have been on the move in search of food, water, shelter or for several other requirements. As the humankind grew in number spreading widely across the globe, civilizations expanded, the drives for the travel also changed from livelihood security reasons to that of recreation, luxury, knowledge, spirituality and such like. Travel for leisure was largely the prerogative of those who relished exploring or as an escape from day-to-day monotonous chores. Economic and technology development facilitated the travel in general, for various livelihood related purposes and for leisure. However, it was only in the last century that common person caught on with the travel bug and felt it necessary and possible to travel far for leisure. The urge to visit new places, landscapes and dwell in adventure caught up as a major component of the travel itinerary. With the turn of the century, awareness about the importance of the dwindling natural landscapes and wildlife has resulted in rise in the percentage of people travelling to wilder habitats. The travel for leisure in India is mainly seen as a recreation among the city populace that takes out time to visit places and cultures and even indulge in adventure. Among these travelers, however the percentage of individuals visiting forests and wildlife habitats has been marginal. The wilderness popularly visited included largely tiger, lion and thino landscapes. Only the last couple of decades have seen wetlands and bird habitats catching up as travelers' destination.

For the last few decades, wetlands are also being acknowledged for the several invaluable tangible and intangible ecosystem services they provide. Wetlands and other aquatic ecosystems have been widely recognized as the cradle of civilization since all the erstwhile centers of civilization have been located close by to them. The Wetlands in India is spread over varied climatic conditions, ranging from the wetlands in cold and humid Jammu and Kashmir to hot and humid Peninsular India up to its southernmost tip. Thus, India can rightfully be proud of a great diversity of Wetlands. Many of these wetlands are unique from the point of biodiversity, scenic beauty, haven for migratory birds and resident avifauna, a variety of other faunal taxa and wide-ranging ecological services.

As a valuable natural resource, wetlands are to be pro-actively conserved, especially in the context of diverse and intense pressure diminishing their quality and spread. In India, the conservation activities and regulation of the use of wetlands are spearheaded by the Ministry of Environment Forests and Climate Change (MoEF & CC, Government of India). The MoEF & CC has promulgated a landmark rule (in 2010), for the purpose of wetland conservation in India. Other central ministries such as Ministry of Agriculture, Ministry of Water Resources, Ministry of Surface Transport, and Department of Fisheries also have important roles to play in the conservation of these unique, highly diverse, and productive ecosystems. Since land is a State subject, various State Government agencies are also involved in making decisions on conservation and use of wetlands. In India, a number of wetlands have been included as part of national parks and sanctuaries. Under the National Wetland Conservation Program, the Government of India has also identified 115 wetlands of National importance; additionally Twenty-six wetlands have been declared as wetlands of international importance and designated as Ramsar Sites.

Conservation of wetlands can be achieved only if their ecological, environmental, social and livelihood significance is known to the stakeholders, the public, the administration and the policy makers. Through this book, we attempt to present glimpses of the 26 wetlands designated as Ramsar sites, spread across 15 states in the country. The book is a brief on the natural wealth, the wetlands, especially the flora and fauna and human dependence. We have also given a few important sources that could provide more information on these wetlands.

#### Andhra Pradesh

The former state of Andhra Pradesh, located in the Southern peninsula of India, was recently separated into two states, Andhra Pradesh and Telengana. After the reorganization, the state now

spreads over 1,60,200 sq km. It has the second longest coast line, 974 km. The state is bound on the North by Odisha and Chhattisgarh, on the West by Telangana and Karnataka, on the South by Tamil Nadu and on the East by the Bay of Bengal. There are 40 river basins in the state, Godavari, Krishna and Pennar being the major ones (Vijayan et al., 2004). The water bodies and the wetlands, both coastal and inland types, together cover 6.62% of the state's geographic area. The Kolleru Lake, Krishna mangroves, Pulicat Lake, Pakhal Lake, Hussain Sagar and Nagarjuna Sagar are some of the important wetlands of the State. Among the wetlands, Kolleru Lake is designated as the Ramsar site of international importance.



RAMSAR SITE IN ANDHRA PRADESH

# Kolleru Lake (Ramsar Site No. 1209)

Kolleru Lake, depicted as "Peerless Fisherman's Paradise and Birds heaven" in the Imperial Gazetteer, is the largest fresh water lake in the country. The lake is an awe-inspiring tourist destination. This water body serves as an important natural flood balancing system in the area, and recent changes, especially related to intensive aquaculture, had made serious flaws in the hydrological regime in the area, leading to prolonged miseries to the public for the longer retention of floodwaters in the area.

Lake Kolleru (situated at 16°24'14" to 16°48'40" N Latitude; 80°55'17" to 81°27'32" E Longitude) (Murthy et al., 2013) falls in the alluvial planes between Krishna and Godavari rivers and spans into the two districts





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