

Preface

The Great Indian Desert, or Thar Desert, is biogeographically the easternmost edge of the Saharan-Arabian desert zone, with an extent of 280,000 km². This hot desert in the north-western region of India is unique and the only habitat of its type on the Indian subcontinent. The Thar Desert is an important area biologically, being characterised by the juxtaposition of very different habitats, namely grassland, sand dunes and rocky expanses.

Before independence, the major portion of the Thar Desert was under the rule of the princely states of Jaisalmer, Jodhpur and Bikaner (now in Rajasthan). It was the desire of every ruler to bring water to these thirsty landscapes, so as to provide water for drinking as well as irrigation purposes. One of the first attempts to cultivate the desert was made by Maharaja Ganga Singh, the ruler of Bikaner State, channelling water from Sutlej via a canal later named the Gang Canal. The construction of this canal was initiated in 1920 and was commissioned on 26th October 1927; the construction work was completed in 1928. Its total length was initially 130 km, irrigating about 1.4 lakh ha only in Bikaner State.

After independence, a separate plan was drawn up by the Government of India to bring water to adjacent areas under cultivation, so as to meet the increased demands of a rapidly growing population. The work on this project was initiated in 1958 and the canal was named the Rajasthan Canal. The excavation commenced only in 1960 after signing of an agreement with the Government of Pakistan, the “Indus Water Treaty”. Initially, the area covered four districts of Rajasthan State, namely Ganganagar, Bikaner, Hanumangarh and Jaisalmer. Later, this canal was renamed the Indira Gandhi Nahar Pariyojana (IGNP) after the (late) Prime Minister of India, Smt. Indira Gandhi. The IGNP is one of the largest and most expensive irrigation systems in dry lands in the world. Many urban and rural villages of the Bikaner, Churu, Ganganagar and Jodhpur districts obtain drinking water through the IGNP Canal. The IGNP is now considered a grand endeavour to bring water from the Himalayas to vast stretches of arid western Rajasthan.

The greater part of the main IGNP Canal is adversely influenced by strong winds and shifting sand dunes, which block the flow of water in the canal network. As countermeasure, the Government of Rajasthan has carried out afforestation on both

sides of the IGNP Canal, in corridors up to 100 m wide. Some of these plantations provide shelter to numerous mammals, viz. the wild boar, nilgai, jackal and desert fox. Many species of resident birds use these corridors during their flights, e.g. the common babbler, paradise flycatcher and green pigeon. The availability of canal water for irrigation has completely changed the pattern of kharif season crops in the IGNP command area. Groundnut *Arachis hypogea*, cotton *Gossypium* sp., paddy rice *Oryza sativa* and sugarcane *Saccharum officinarum* have replaced traditional crops such as moong *Phaseolus radiatus*, moth *Vigna acontifolia*, gaur *Cyamopsis tetragonoloba* and bajra *pennisetum typhoides*. Single-crop areas are being converted into double- and triple-crop areas. Sandy soil fields are now commonly used for two crops like bajra and gaur during the kharif season, and mustard, gram, wheat and barley during the rabi season, as well as vegetables.

This book is a result of detailed observations by reputed scientists working on the fauna of the Great Indian Desert, the faunal groups ranging from lower invertebrates (insects) to higher vertebrates (mammals). There are 16 chapters, and each contribution is made by an expert or professional in his/her particular field. The book offers novel information on various aspects of desert faunal ecology and conservation in the Great Indian Desert, with implications for similar ecosystems worldwide.

The Editors

Port Blair (Andaman)
Jhalamand (Jodhpur)
Mayiladuthurai (Nagapattinam)
Thiruvannamiyur (Chennai)
July 2008

C. Sivaperuman
Q.H. Baqri
G. Ramaswamy
M. Naseema

Faunal Ecology and Conservation of the Great Indian
Desert

Sivaperuman, C.; Baqri, Q.H.; Ramaswamy, G.;
Naseema, M. (Eds.)

2009, XVIII, 222 p. 41 illus., 1 illus. in color., Hardcover

ISBN: 978-3-540-87408-9